Public Utilities

FORTNIGHTLY

January 18, 1940

PUBLIC UTILITIES REPORTS, INC.
PUBLISHERS

NEW Genuine SILEX ENTRI

GLASS COFFEE MAKER
TRADE MARK REGISTERED U.S. PAT. OFF.

in the 1940 Sweepstakes

Narrow Neck Models for Better Pouring

These are the added entries in a race in which everyone wins. Now you have models to me demand.

The electric Catalina Model at the new low figure of $6.95 (either black or ivory) will win in a It is complete with Anyheet Thermostatic Temperature Control and "self-timing" stove. Packag gold foil gift box.

Wide Neck Models for Easy Cleaning

The Saratoga has removable chrome lower bowl decoration and Moldex trim in black or ivory. E with Anyheet Thermostatic Temperature Control and "self-timing" stove.

In the Bretton Models you have a choice of ivory or black Moldex removable lower bowl de and handle. Place your bets on these models.

Pyrex brand glass.

All units complete with upper and lower bowl covers and Dippex coffee measuring spoo

$4.90 OR 17% EXTRA PROFIT FOR THE DEA

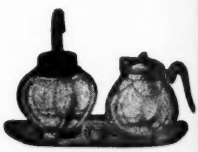
Special Introductory Offer a $2.95 Unit and 3 Ivory Guest Trays FR when you buy this Sweepstakes Assortment

Retail Value $33.65 - Your Special List Price Only $2

OFFER EXPIRES FEBRUARY 29, 1940

CATALINA IVORY ELECTRIC MODEL
$6.95 Cat. No. EI5
Ivory Tray 65c

SARATOGA IVORY ELECTRIC MODEL
$6.45 Cat. No. SAE-I-1
Ivory Tray 65c



BRETTON IVORY KITCHEN MODEL
$3.45 Cat. No. BWK-I-1
Ivory Tray 65c

BRETTON BLACK KITCHEN MODEL
$2.95 Cat. No. BWK-B-B

BRETTON BLACK ELECTRIC MODEL
$4.95 Cat. No. BWE-B-B

CATALINA BLACK ELECTRIC MODEL
$6.95 Cat. No. CEB-B

Sweepstakes Assortment
Cat. No. 1940A $28.75

Whether you merchandise or not — T promotion of this assortment will incre your connected lead. Consentrate on t Now.

THE SILEX CO. - HARTFORD, CONN "Creators of the Glass Coffee Maker Indust

Genuine SILEX

TRADE MARK REGISTERED U.S. PAT.

Editor—HENRY C. SPURR
Associate Editors—ELLSWORTH NICHOLS, FRANCIS X. WELCH, NEIL H. DUFFY
Financial Editor—OWEN ELY

Public Utilities Fortnightly

VOLUME XXV *January 18, 1940* NUMBER 2

Contents of previous issues of PUBLIC UTILITIES FORTNIGHTLY *can be found by consulting the "Industrial Arts Index" in your library.*

¶ *This magazine is an open forum for the free expression of opinion concerning public utility regulation and allied topics. It is supported by subscription and advertising revenue; it is not the mouthpiece of any group or faction; it is not under the editorial supervision of, nor does it bear the endorsement of, any organization or association. The editors do not assume responsibility for the opinions expressed by its contributors.*

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Pages with the Editors

DURING the recent eve of this still New Year of 1940, as the hands of the clock approached the zero hour, we found ourselves in a Manhattan *boite* having tea and scones with a few old friends, as is our annual custom. Suddenly out of nowhere a question which bothered the newspapers a great deal around the holiday season was brought up: What shall we call the decade just closed? What will be its nickname?

THERE were, for example, the Victorian Seventies, the Imperial Eighties, the Gay Nineties, the Elegant Decade (or Age of Muck), which opened the twentieth century, the War-torn Teens, and the Torried Twenties. What can we say of the thirties? It is not an important issue but rather a provocative one. There were all sorts of proposals.

THIS one suggested the Thorny Thirties, with bitter memory of depression years. Another said the Red Decade because it marked the political peak of left-wing or socialistic philosophy—although still others were not so sure about that. A convivial Republican ignored the decade motif entirely and proposed Seven Lean Years, while a scholarly Democrat came right back with Renaissance of Social Consciousness.

GEORGE E. DOYING

Public power: For public use or public ownership?

(SEE PAGE 67)

HAROLD BRAYMAN

Conservative opposition is getting wise at last to the New Deal hidden ball trick.

(SEE PAGE 89)

WHILE this harmless battle raged, we slipped into a brown study over what special characteristics were manifest in the field of public utility regulation during the Thorny Thirties, or whatever we do finally decide to call the expired decade. The more we thought about it the more it appeared that the still brief history of American public utilities and of their regulation seems to fall naturally into four periods which coincide more or less with the changing decennials.

THE Gay Nineties, for instance, were for the utilities the era of organization. The gas, water, and railroad utilities had gone through this some years before, but the telephone and electric industries got pretty nearly an even start. For them the period between 1890 and the turn of the century was devoted mostly to laying their respective industrial foundations, getting patent problems straightened out, and so forth.

FROM 1900 to 1910 was the period of ex-

pansion. It involved the solution of territorial problems, operating rights, and corporate reorganizations. The second decade of the century was, of course, dominated by the World War, when all forms of utility enterprise were subjected to the stress and strain of a democracy in arms. It might be called the Period of Consolidation, since out of that crucible the utilities emerged strong and confident in the public service.

THE twenties marked the promotional period during which utility enterprise, by this time firmly entrenched in the national economy, went on to reach new peaks in sales and customers. It was a period of hectic finance and some regrettable errors following the dizzy pace of business in general. Yet when the crash came during the last year of the decade, it found more people taking more utility service than the wildest optimist would have dreamed possible during the pioneering days of Bell and Edison.

THEN came the thirties with their cumulative effect of continuous revelations by the Federal Trade Commission in its investigation of the same electric and gas utility industries. The same decade brought the more recent Federal Communications Commission investigation of the telephone industry. There was, of course, the depression which ushered in an epidemic of rate cases and antiutility agitation. This in turn revived the public ownership movement, which reached its political peak under the New Deal and has recently shown signs of waning.

BUT on the whole the thirties might justly be called the Age of Maturity as far as utility regulation is concerned. The state commissions, augmented by new powers granted to the Federal commissions, worked out a number of regulatory experiments, such as the Pennsylvania-New York temporary rate-fixing technique and the Washington plan, which brought utilities more in line with the public demand for lower rates and more abundant service. The utilities themselves, in their voluntary rate adjustments and public relations policy, found a new and higher degree of social consciousness. The ever-climbing revenue line dipped with the depression and started steadily downward for the first time in a century, while operating costs recovered much more rapidly when the nadir of the depression was passed. These are experiences of an industry which has truly come of age. Hence the title "Age of Maturity" for the volatile thirties.

THIS does not mean necessarily that the utilities are now heading into a dreary plateau of routine operations under the regimenting influence of goldfish-bowl regulation. It means rather that the industry has accepted a new sense of responsibility and must approach the future accordingly. What that future will bring is a question that is as difficult to answer as the fate of Europe ten years from now. It may be new business on a scale that will far surpass the splurging twenties.

HERBERT COREY

The old antiutility political mare ain't what she used to be.

(SEE PAGE 80)

IN the field of communications, television stands on the threshold of the future with intriguing possibilities. Air conditioning, just to mention one appliance field as yet barely scratched, beckons both gas and electric companies to new promotional effort. Yes, it may be that we shall have to call these next ten years the Roaring Forties—reminiscent of the term used one hundred years ago when Yankee clipper ships shuttled American commerce to the ends of the earth.

A MORE modest view of the immediate future for utilities can be obtained from two companion pieces in this issue, written by a well-known pair of Washington correspondents—HERBERT COREY, whose articles frequently appear in the FORTNIGHTLY, and HAROLD BRAYMAN, who is in charge of the Washington bureau of the *Philadelphia Evening Ledger*. Also in this issue we present an article on Federal power policies by GEORGE E. DOYING, managing editor of *P.U.R. Executive Information Service*. Royal M. Barton, whose informative and timely analysis of the submetering problem appears on page 109, is an executive of Ebasco Services Incorporated.

THE next number of this magazine will be out February 1st.

The Editors

In This Issue

In Feature Articles

In Financial News

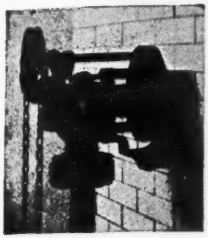
In What Others Think

In The March of Events

In The Latest Utility Rulings

PREPRINTS FROM PUBLIC UTILITIES REPORTS

Various regulatory rulings by courts and commissions reported in full text, pages 65–128, from 31 PUR(NS)



VULCAN VALVE HEAD, LG-1

The Vulcan Automatic Valve Operating Head is an advanced development for the high and ever increasing higher pressure and temperature conditions encountered in modern steam plants. Simplicity is the keynote in design and construction. A piston valve steam actuated thru a pilot valve provides positive operation—makes Vulcan Automatic Heads the greatest step ahead in Soot Blower Design in the past 15 years.

VULCAN VALVE ASSEMBLY

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Lowest Cost? . . . NO!
Highest Quality?
emphatically YES!

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—are built with but one object—to provide industry with the highest quality equipment of this type it is possible to build. Every steam plant offers new problems in soot removal—Vulcan Engineers have successfully solved thousands of such problems. Vulcan installations are soundly designed, individually designed to do their work efficiently and economically—

to cut fuel costs and provide real savings in steam production.

From the desks of design and layout engineers to drafting room to factory craftsmen and to field service, Vulcan personnel takes pride in providing a personalized installation, built to exacting standards for long service and economical operation—backed by a record of lowest maintenance. *Ask the Vulcan Engineer representative why Vulcan must build to highest standards only.*

VULCAN VALVE DETAIL

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Remarkable Remarks

"There never was in the world two opinions alike."
—MONTAIGNE

ARTHUR H. VANDENBERG
U. S. Senator from Michigan.

"Business has been taken too often to Munich."

ROBERT F. RICH
U. S. Representative from Pennsylvania.

"It requires a business executive to run a business, and not a rabble rouser."

DALE MILLER
Associate editor, The Texas Weekly.

"Democracy, to be improved, must be practiced; democracy, to be preserved, must be lived."

WALTER W. JENNINGS
Professor of Economics, University of Kentucky.

"Such industries as the fisheries and aeronautics could scarcely exist without government aid."

HAROLD L. ICKES
U. S. Secretary of the Interior.

"Our world of tomorrow is likely to be shaped by the availability of coal, oil, and natural gas."

EDITORIAL STATEMENT
Railway Age.

"Only with respect to the railroads do our national defense authorities appear to be asleep at the post."

HARRY FLOOD BYRD
U. S. Senator from Virginia.

"We have primed the pump with borrowed money for nearly nine years. The result has been a tragic failure."

CONRAD N. LAUER
President, The Philadelphia Gas Works Company.

"We cannot overestimate the value of good service and fair rates in producing favorable public attitude."

EDITORIAL STATEMENT
Forbes.

"It seems to be part of man's nature to complain about railroad service, just as he complains about the weather or taxes or the price of a good cigar."

PAUL V. MCNUTT
Federal Securities Administrator.

"To avoid disaster, democracy must afford relief by extending political freedom to include, so far as possible, economic freedom by enlarged opportunity."

JOHN E. RANKIN
U. S. Representative from Mississippi.

"The rate regulation for electric light and power, as now practiced in the United States, is an ineffective and obsolete method of protecting the ratepayer."

LOUIS LUDLOW
U. S. Representative from Indiana.

". . . when a governmental department is established, it opens a pipe line straight into the United States Treasury."

ALFRED L. GEIGER
Former General Attorney, U. S. Independent Telephone Association.

"The exact line of demarcation between managerial authority and commission power has never been clearly defined . . ."

WILLIAM H. HILL
Former president, Indiana State Bar Association.

"The practice of law must be lifted above the idea of a game or a contest or a clashing of wits through the use of antiquated rules of procedure."

FLOYD W. PARSONS
Editorial director, Gas Age.

". . . a long and bitter war will doubtless give America full employment, complete utilization of resources, and certainly a balanced Federal budget. This may seem a cold-blooded way of viewing the situation, but it is necessary."

CHARLES I. FADDIS
U. S. Representative from Pennsylvania.

"For every million kilowatts of electricity they [TVA] produce, they do away with the need for over 700 tons of coal, and every ton of coal mined and put on the market represents a day's work for some coal miner or railroad worker."

WILLIAM P. COLE, JR.
U. S. Representative from Maryland.

"There are those who believe that state regulation, after a reasonable period of trial, has failed in the matter of prevention of avoidable [oil] waste to the degree the nation should expect, and is not likely to prove effective in the future."

GEORGE D. AIKEN
Governor of Vermont.

"Farmers of New England are generally opposed to government ownership. But they will not hesitate to align themselves with the Federal government in the operation and control of electric plants and lines unless they get adequate service and proper rates, and get it soon."

ARTHUR E. MORGAN
Former chairman, Tennessee Valley Authority.

"Industrialists and business leaders have a long way to go to understand the true meaning of democracy as we should know it in the United States. Democracy does not consist of counting noses or getting votes. Democracy is the distribution of authority and responsibility in relation to the actuality of capacity."

LISTER HILL
U. S. Senator from Alabama.

"I disagree with the policy of the Tennessee Valley Authority in transmitting power from Muscle Shoals and Pickwick Landing power stations to Arkansas for the reason that the Arkansas power market ought to support and sustain the building of power-navigation dams and reservoir dams on the Arkansas river and its tributaries, especially the White river in the state of Arkansas."

OF UTILITIES REVEALED BY C-E Equipment

"AT A GLANCE" SUMMARY

PRESSURES	1400 lb and higher	10 units
	900 lb to 950 lb	8 units
	700 lb to 775 lb	16 units
TEMPERATURES	900 F and higher	19 units
	825 to 860 F	14 units
	725 F	1 unit
BOILER DESIGN (all bent tube)	3 Drum	26 units
	2 Drum	5 units
	Multi-Drum	3 units
SUPERHEAT CONTROL	With	29 units
	Without	5 units
WATER COOLING	With	34 units
	Without	None
FURNACE BOTTOMS	Dry	20 units
	Slagging	9 units
	Stoker-fired	5 units
FUELS	Pulverized coal	25 units
	Natural gas and oil	4 units
	Stoker fired	5 units
METHOD OF FIRING	Corner	17 units
	Horizontal	10 units
	Vertical	2 units
	Stokers	5 units
HEAT RECOVERY	With	32 units
	Without	2 units
ECONOMIZERS	With	17 units
	Without	17 units
AIR HEATERS	With	32 units
	Without	2 units

Contracts From Public Utilities Total 34 C-E Units with an Aggregate Capacity of more than 11,000,000 lb of Steam Per Hr.

A cross section of contracts for C-E equipment is always significant as an indication of current trends and a prediction of future practice in steam generation by the utilities.

The data presented here cover the period beginning January 1st, 1939 and include all C-E units ordered, placed in service or undergoing erection by public utilities since that date. They reach the striking total of 34 units which have a combined capacity of more than 11,000,000 lb of steam per hr. All are high pressure, high temperature units of the type with which C-E is so closely identified. Chief characteristics of these units are tabulated and summarized at the left.

Because they represent a considerable portion of all new equipment of this type purchased, installed or under construction during this period they can be regarded as the present-day "trends" in utility steam practice.

Judged by past operating records, C-E high pressure, high temperature units may be relied upon *at least* to meet the efficiency and capacity performance specified. Equally important, they are built to operate continuously for long periods of time with only such infrequent outages for periodic inspection and cleaning as are required by good practice.

How successfully "high availability" has been established, as a characteristic quality of C-E equipment is amply demonstrated by recent performance records which in many cases have exceeded even the expectations of the customer. An opportunity to show you these records will be welcomed.

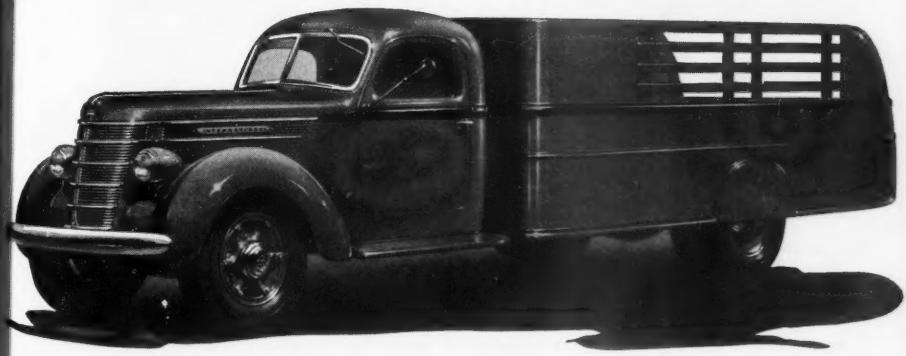
A-487

COMBUSTION ENGINEERING COMPANY, INC., 200 MADISON AVENUE, NEW YORK, N. Y. • CANADA: COMBUSTION ENGINEERING CORPORATION, LTD., MONTREAL

ENGINEERING

OUTSTANDING *Style*

. . . but you get a lot more than style for your money in these 1½-ton Internationals



This picture of the 1½-ton Model D-30 doesn't half do justice to the truck. It gives you a good idea of the modern streamlined beauty of International Trucks, but it doesn't tell you a thing about the amazing economy of the trucks on your job. Drivers and owners can tell you about that.

It takes more than just style to deliver International performance. A new line is not just a matter of the calendar with International Harvester. Constant improvements in engineering and construction *make* and *keep* International Trucks the standard for the industry.

The constant aim of this company is to give you *hauling value—to make economical performance your lasting source of satisfaction.* HAULING VALUE—plus distinctive beauty of design that is recognized and admired wherever loads are hauled.

In the popular Model D-30, as in every International Truck from the sturdy ½-ton pickups to the powerful six-wheelers, you get *International* performance. And that's the finest thing that can be said of anything on wheels. International Trucks are rugged, *all-truck* trucks, all the way through. They're made for tough jobs and rough handling, and they're built to take it.

And throughout your years of International ownership, the network of Harvester's Company-owned truck-service organization is ready to service your trucks at all times. For complete details, see the nearby International dealer or Company-owned branch.

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INTERNATIONAL TRUCKS

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There's no "weak link" in a welded piping system when Grinnell Welding Fittings are used. For these fittings permit every weld to be a plain circumferential butt weld — strong, easily made by any qualified pipe welder.

Take the guesswork out of welded piping by using these fittings. Their properties and working pressure-temperature ratings are identical with the pipe itself. They are seamless — produced by a patented hydraulic forming process—stress-relieved to retain their shape after welding.

For a simple, economical welded piping job free of ragged sharp corners, slag inside the pipe, nondescript welds — for assurance of clean, smooth inside surfaces, specify Grinnell Welding Fittings. 32-page descriptive catalog on request. Grinnell Company, Inc., Executive Offices, Providence, R. I. Branch offices in principal cities.

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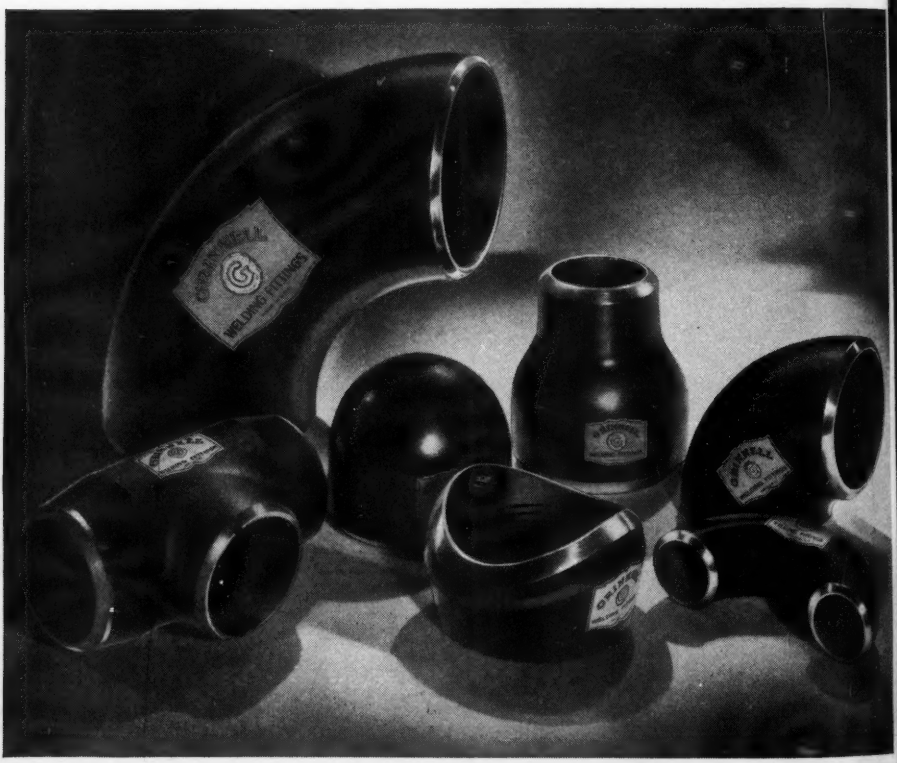
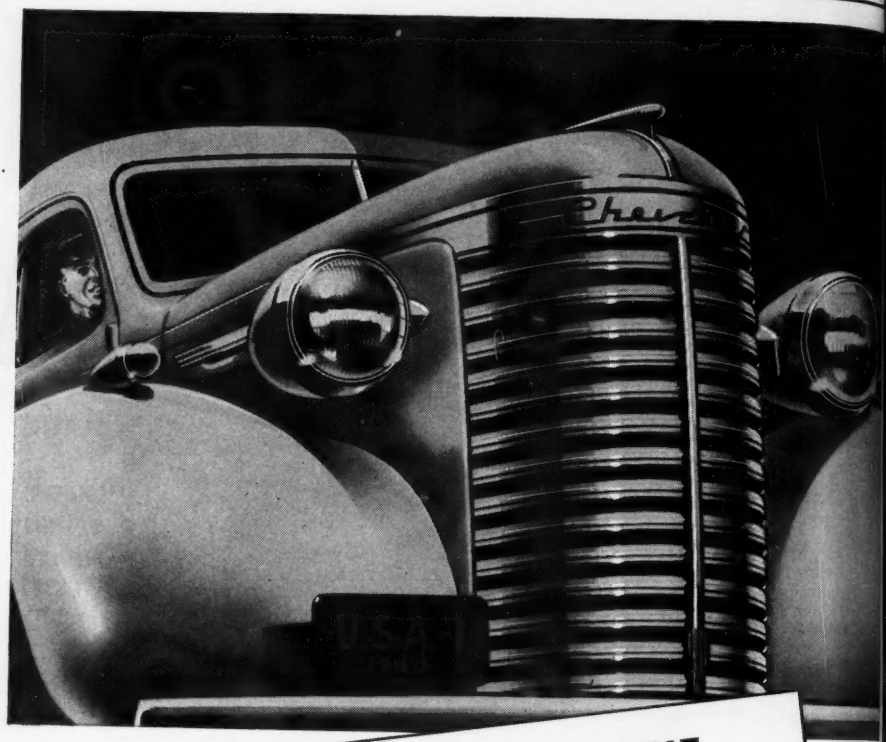
WHENEVER **PIPING** IS INVOLVED





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Smoke, acid fumes, weather or corrosive soils have little or no effect on J-M Transite Ducts. Made of asbestos and cement, they will not rust, rot or decay. Furthermore, Transite Ducts are completely incombustible, do not add to gas formation if burnouts occur, and have exceptional resistance to flame and arc. Maintenance costs are practically zero.

YOU GET FASTER CABLE LAYING

Cables pull easier through Transite Ducts. Even after years of service their interiors stay smooth; joints remain tight. Cables are readily removed and replaced.

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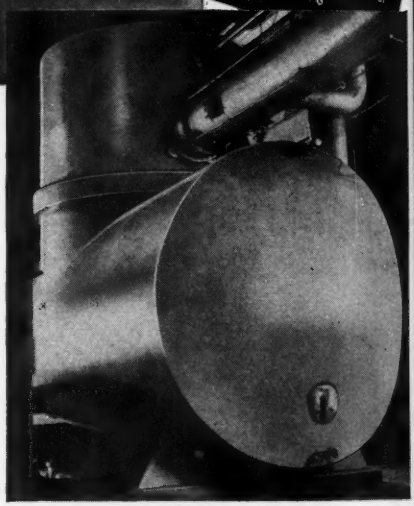
an Elliott 1,440,000-lb.-per-hr. horizontal deaerator is mounted on a horizontal 3,500-cu. ft. storage tank.

At Logan

an Elliott 850,000-lb.-per-hr. vertical deaerator is mounted on a horizontal storage tank.



● The Ohio Power Co., of the American Gas & Electric Co. group, recently modernized its half of the jointly-owned Windsor Station at Power, W. Va., by adding high-pressure boilers and topping turbine. The Appalachian Electric Power Co., of the same group, modernized the Logan Station in southwestern West Virginia in the same manner. In each case Elliott deaerators were installed as one stage in the regenerative feedwater heating cycle and to provide the utmost in deaeration, which is so essential to high-pressure boiler installations.

The American Gas & Electric Service Corp., whose engineering department designed this work and supervised its construction, has had long experience with Elliott deaerating units, having used them in various stations for many years. Also, in the West Penn half of the Windsor Station, two Elliott 350,000-lb.-per-hr. deaerators have been in operation since 1922. Elliott deaerators have been installed almost equally as long in such stations as Twin Branch, Philo, etc. These were among the earliest installations of deaerators in big central stations. They have demonstrated thoroughly the fact that Elliott Company knows deaeration and that Elliott units get maximum efficiency and performance.

*** DEAERATOR-a unit which gives "zero oxygen" performance**

Elliott deaerators and deaerating feedwater heaters are available in a complete range of sizes and types to fit into the heat balance and space limitations of any power plant, large or small.

ELLIOTT COMPANY

Deaerator and Heater Dept.

JEANNETTE, PA.

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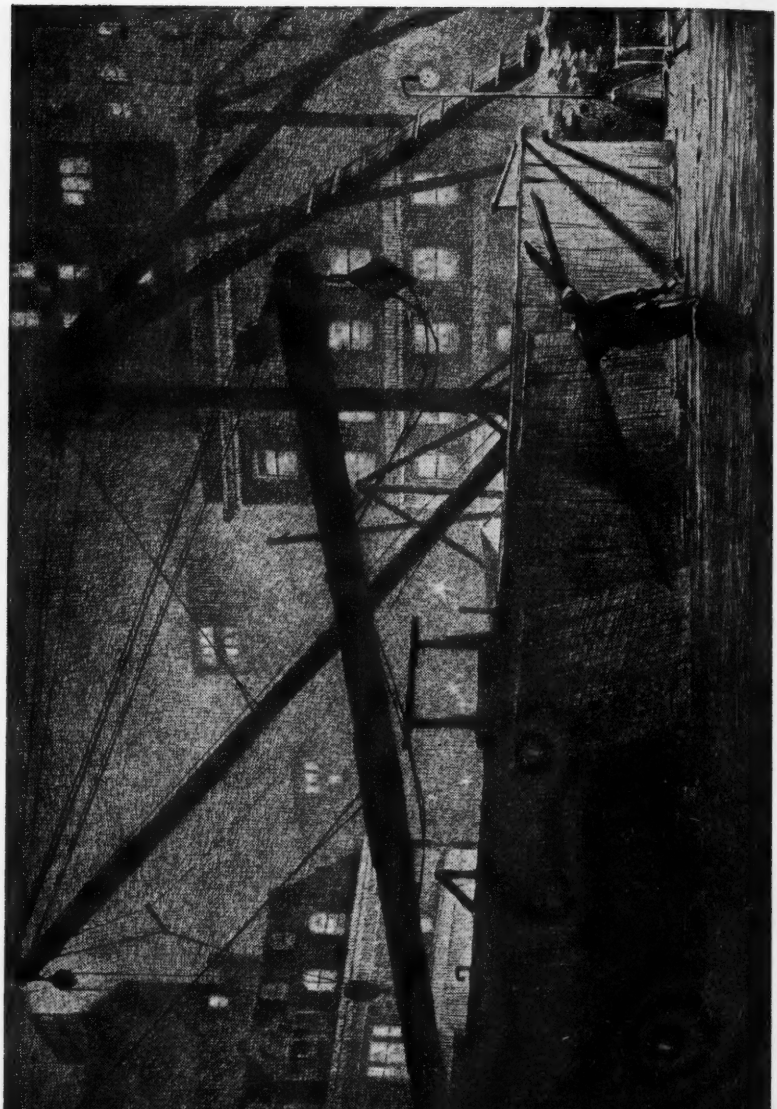
MOTORS • GENERATORS • MOTOR-GENERATORS • DEAERATORS • FEED-WATER HEATERS • DEAERATING HEATERS
CENTRIFUGAL BLOWERS • DESUPERHEATERS • FILTERS • VACUUM COOLING EQUIPMENT • STEAM JET EJECTORS
ELECTRIC HEATERS • TUBE CLEANERS • SEPARATORS—STRAINERS • GREASE EXTRACTORS • NON-RETURN VALVES

Utilities Almanack

JANUARY

18	Th	¶ *Engineering Congress will be held, University of Colorado, Boulder, Colo., 1940.*
19	F	¶ *EEI Prime Movers Committee will convene for session, Cincinnati, Ohio, Feb. 5, 6, 1940.*
20	Sa	¶ *American Society of Civil Engineers concludes session, New York, N. Y., 1940.*
21	S	¶ *National Electrical Manufacturers Association will hold meeting, New York, N. Y., Feb. 5–9, 1940.*
22	M	¶ *American Institute of Electrical Engineers opens winter convention, New York, N. Y., 1940.*
23	Tu	¶ *Minnesota Telephone Association begins meeting, Minneapolis, Minn., 1940.*
24	W	¶ *EEI Electrical Equipment Committee will hold meeting, Cincinnati, Ohio, Feb. 12, 13, 1940.*
25	Th	¶ *Northwest Petroleum Association, Minnesota Division, convenes, Minneapolis, Minn., 1940.*
26	F	¶ *American Society of Heating and Ventilating Engineers ends 5-day convention, Cleveland, Ohio, 1940.*
27	Sa	¶ *American Society of Civil Engineers, North Carolina Section, will convene, Raleigh, N. C., 1940.*
28	S	¶ *Southern Gas Association will hold annual convention, Hot Springs, Ark., Feb. 12–14, 1940.*
29	M	¶ *Iowa Public Utilities Association starts annual sales and distribution school, Des Moines, Iowa, 1940.*
30	Tu	¶ *New England Gas Association will hold convention, Boston, Mass., March 14, 15, 1940.*
31	W	¶ *Texas Telephone Association will hold 35th annual convention, San Antonio, Tex., Mar. 19–21, 1940.*



From an etching by Martin Lewis *Courtesy, Kennedy & Co., New York*

Derricks

Public Utilities
FORTNIGHTLY

VOL. XXV; NO. 2 JANUARY 18, 1940

Restricting Markets for Federal Power

Present indications justify, in the opinion of the author, the assumption that the free flow of public funds to promote public ownership of local electric utilities has been stopped. The day may not be far distant, he declares, when the sale of power from Federal plants will be handled on an economic basis which will give due recognition to existing facilities and provide for widespread distribution in the true public interest.

BY GEORGE E. DOYING

ECONOMIC consequences of national import are involved in the policy governing the disposition of electric power generated at Federal hydroelectric plants. Up to now, at least, that policy in the main has been to accord preferential treatment to public and quasi public agencies. During recent years it has been extensively employed as a fulcrum to pry private enterprise from an established position and supplant it with public ownership. A fundamental change in our economic structure has thus been under way without having run the gauntlet of full and open discussion. Like Topsy, it was not born; it "just growed."

Increasing realization of this fact in Congress suggests that the pendulum may have reached its leftward extremity and is due to start a reverse movement.

PROMPT and efficient use of the vast amounts of power soon to become available as huge Federal plants ap-

proach their ultimate capacity demands that equal consideration shall be given to existing transmission and distribution facilities, even though "privately" owned. (These public utility systems are not, of course, privately owned at all. They have merely been made possible by investment of the savings of hundreds of thousands of private citizens—part and parcel of, often identical with, the same private citizens who constitute the public agencies which are the beneficiaries of preferential consideration.)

The avowed purpose behind the construction of Federal power plants has been to provide electricity for the greatest number of people at the lowest possible cost, without unnecessary injury to existing investment. This worthy purpose has been made the victim of political chicanery by injection of the theory that the objective could be attained only through public ownership. Existing private investment became the "forgotten man."

THE evolution of preferential treatment of public agencies is an interesting study. Its first manifestation is to be found in an Act of Congress in 1906,[1] wherein it was provided

> That whenever a development of power is necessary for the irrigation of lands (under the Reclamation Act of 1902), the Secretary of the Interior is authorized to lease for a period not exceeding ten years, *giving preference to municipal purposes*, any surplus power or power privilege, etc. (Italics supplied.)

The Bureau of Reclamation did not then consider this provision as a mandate to encourage municipalities to engage in the public ownership of electric distribution facilities. During the ensuing years the Bureau constructed a number of relatively small power plants in connection with irrigation projects. In some cases the operation of these plants was conducted by the bureau; in others, associations of water users leased the generating equipment and distributed the energy to themselves. In several instances the power output was sold to "privately owned" public utilities which were in a position thus to supplement their own service to the public.

"We have had many dealings with utilities and never have we had difficulties with the utilities," said Reclamation Commissioner John C. Page recently.

Franklin D. Roosevelt's first pronouncement, as a presidential candidate, on the subject of public utilities and power distribution categorically affirmed his belief that private enterprise should, in general, be entrusted with the development and operation of utilities. At the same time, he emphasized that any community should be free to adopt public ownership if it could not otherwise be assured of efficient service at low rates. That was the famous "birch-rod-in-the-cupboard" speech. Mr. Roosevelt's own words were:[2]

> I do not hold with those who advocate government ownership or government operation of all utilities. I state to you categorically that as a broad general rule the development of utilities should remain, with certain exceptions, a function for private initiative and private capital.
>
> But the exceptions are of vital importance. . . . I therefore lay down the following principle: That where a community—a city or county or a district—is not satisfied with the service rendered or the rates charged by the private utility, it has the undeniable basic right, as one of its functions of government, one of its functions of home rule, to set up, after a fair referendum to its voters has been had, its own governmentally owned and operated service. . . . I might call the right of the people to own and operate their own utility something like this: a

"birch-rod" in the cupboard to be taken out and used only when the "child" gets beyond the point where a mere scolding does no good.

That is the principle which applies to communities and districts, and I would apply the same principles to the Federal and state governments.

State-owned or Federal-owned power sites can and should and must properly be developed by government itself. That has been my policy in the state of New York for four years. When so developed by government, private capital should, I believe, be given the first opportunity to transmit and distribute the power on the basis of the best service and the lowest rates to give a reasonable profit only. The right of the Federal government and state governments to go further and to transmit and distribute where reasonable and good service is refused by private capital, gives to government—in other words, the people—that very same essential "birch-rod" in the cupboard.

THIS pronouncement followed the policy enunciated by Mr. Roosevelt on more than one occasion prior to and during his régime as governor of New York. Thus, in a campaign address (as a candidate for the governorship) in 1928, he said:[3]

> I do not want . . . to put the state of New York into the business of distributing power to the ultimate buyer. That is a matter which can now be properly taken care of by private companies . . .

And as governor, in 1929:[4]

> . . . the actual operation of a transmission or a distribution system in this field of activity should, if possible with safety to the people, be undertaken by private enterprise, and . . . the state should undertake it only if private enterprise proves that it cannot, or will not, successfully carry out the task.

The Federal Water Power Act of 1920,[5] providing for the licensing of hydroelectric projects, specified (§ 7) that preference should be given to states and municipalities *if their plans were deemed by the commission to be equally well adapted to conserve and utilize in the public interest the water resources of the region.*

In the Boulder Canyon Project Act of 1928[6] Congress readopted this policy for disposing of water and power rights, with the added provision (§ 5(c)) for limited preference to the three lower basin states of Arizona, California, and Nevada over municipalities (having special reference to Los Angeles) in acquiring power for use in the state.

The public interest and preference for public agencies were not then viewed in the light which later became the guiding beam of the Roosevelt administration. The government's policy was set forth in an opinion by the solicitor for the Department of the Interior,[7] in part as follows:

> The term "public interest," used in the first paragraph of subsection 5(c) is the government's responsibility, financial and otherwise, to all the people of the United States for the greatest good to be derived

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¶ "A SEEMINGLY *innocuous bill was introduced in the House last June by Representative Compton White of Idaho, chairman of the Committee on Irrigation and Reclamation. The bill originated in the Department of the Interior, of which the Bureau of Reclamation is a part. Its stated purpose was 'to provide a feasible and comprehensive plan for the variable repayment of construction charges on United States reclamation projects, to protect the investment of the United States in such projects, and for other purposes'.*"

from this project; . . . The "public interest" requires, first, financial security of the United States, and, secondly, equality of access to Boulder dam power by areas composing the region in proportion to the needs of the applicants. . . . The primary public interest is in the soundness of the contracts and the solvency of the contractor, not in the corporate or municipal character of that contractor. All preferences are subordinate to this public interest.

Concerning the question whether a municipality or a state has a preference for power which it proposes to sell outside its boundaries as against a bid for power by a privately owned public utility proposing to sell in the same area outside the boundaries, the "preference" of the municipality is a preference in consumptive right, not in merchandising advantage. Outside its own borders a state or municipal corporation, reselling power, is on a parity with any other public utility selling in that territory. If it seeks to elect, on behalf of consumers who are not its citizens, whether those consumers shall buy from it or from another company, its decision has not the dignity of a "preference" within the policy of the Federal Water Power Act (§ 7), but has the status of a competitive offer.

In the Tennessee Valley Authority Act of 1933,[8] the first legislative achievement of the New Deal on the power issue, a cautious step was taken toward expanding the policy of giving preference to public agencies. The TVA was authorized to sell surplus power to "states, counties, municipalities, corporations, partnerships, or individuals, according to the policies hereinafter set forth." But it was directed to "give preference to states, counties, municipalities, and coöperative organizations of citizens or farmers, not organized or doing business for profit, but primarily for the purpose of supplying electricity to its own citizens or members."

However, the "policies hereinafter set forth" were stated as follows:

Sec. 11. It is hereby declared to be the policy of the government so far as practical to distribute and sell the surplus power generated at Muscle Shoals equitably among the states, counties, and municipalities within transmission distance. This policy is further declared to be that the projects herein provided for shall be considered primarily as for the benefit of the people of the section as a whole and particularly the domestic and rural consumers to whom the power can economically be made available, and accordingly that sale to and use by industry shall be a secondary purpose, to be utilized principally to secure a sufficiently high load factor and revenue returns which will permit domestic and rural use at the lowest possible rates . . .

The public agencies were ostensibly left free to fix their own retail rates for TVA power distributed without discrimination to ultimate consumers, but the TVA directors were required to fix resale rates for power sold at wholesale to other distributors. So it was apparently intended and expected by Congress that TVA power, as it became available, should forthwith be distributed to ultimate consumers through one means or the other (that is, by public or private agencies) under conditions designed to provide the lowest possible rates—the honor system for public agencies, compulsion for private distributors.

The TVA, however, proceeded on the theory that it had been given a mandate to distribute power through public agencies, and in 1935 succeeded, with administration support, in having this policy validated by Congress. Amendments to the act[9] were adopted authorizing the issuance of $50,000,000 of bonds with which to extend credit to public agencies for their acquisition of privately owned distributing and generating facilities—"to give effect to the priority herein accorded" and to avoid duplication of facilities.

In the meantime, in June, 1933, the Federal Emergency Administration of Public Works (PWA) was created. This first major attack upon the un-

Purpose of Federal Power Plants

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employment emergency provided for a comprehensive program of public works, including the conservation and development of natural resources, which in turn was to include the development of water power and transmission of electric energy. The program also was to include the construction, repair, and improvement of "any publicly owned instrumentalities and facilities." Loans and grants to states, municipalities, and other public bodies were authorized.

Under the guiding hand of Harold L. Ickes, Secretary of the Interior, it was soon made clear that the development and distribution of power by public agencies was to be a major objective of the PWA. President Roosevelt designated the Federal Power Commission as the agency to which the PWA should look for advice as to applications for loans and grants for municipal electric plants, etc.[10] This didn't seem to fit in with Mr. Ickes' plans. Furthermore, there appeared to be some hitch in getting such applications through the local PWA boards which were set up in each state. So, before the PWA was a year old, Mr. Ickes established the Electric Power Board of Review, composed of his own subordinates whose views were more or less harmonious with his own. This board's duty was to look over all disapprovals by any PWA division and make its own recommendations in the premises.

THEN, in July, 1934, the President established within the PWA, and with Mr. Ickes as chairman, the National Power Policy Committee. "It is not to be merely a fact-finding body," said the President, "but rather one for the development and unification of national power policy." [11] For five years this committee has served mainly as a berth for Benjamin V. Cohen as general counsel. Mr. Cohen is the reputed author of practically all public utility legislative proposals sponsored by the New Deal, but no "national power policy" has ever been proclaimed. The committee was revitalized by the President in October, 1939, for the stated purpose of developing "a consistent Federal power policy."[12]

The Electric Power Board of Review in 1934 managed to get itself and the PWA "out on a limb" by using its authority to secure lower electric rates.

When a privately owned utility, threatened with competition by a PWA-financed municipal plant, agreed to reduce its rates sufficiently, the board recommended withdrawal of the municipality's application for a grant.

This form of club-wielding over established utilities soon became embarrassing, and in December, 1935, the policy was officially repudiated by Mr. Ickes.[13] Increasing dissatisfaction over the board's operations brought about its dissolution after ten months of existence.

A FEW months later, however, Mr. Ickes created a power division within the PWA. Its announced purpose[14] was to give "special and expeditious attention to applications for publicly owned power plants." The administrator ordered that preference be given in all PWA state offices to the study of power projects.

Coincidentally, the Federal Power Commission was engaged in making two surveys: One, by order of the President,[15] was a study of power resources—the other, by resolution of Congress[16] at the instigation of Senator Norris of Nebraska, a compilation of electric rates in every municipality in the United States. The PWA's appropriations for unemployment relief were drawn upon for several hundred thousand dollars to finance the work.

These surveys were conducted on a factual basis, but some of the ensuing reports were prepared with the apparent motive of indicating deficiencies of the privately owned utilities and, more particularly, to create a halo for public ownership.

(The apparent diversion of this discussion from the main theme—preference to public agencies in the sale of power—is really not the injection of extraneous matter. All of these factors were clearly calculated to work toward the same end.)

By this time the public ownership movement was approaching its peak. The President and Mr. Ickes, through the PWA, had authorized the construction of several large hydroelectric projects. Some were Federal projects, purported to be for flood control, improvement of navigation, reclamation of arid land, etc., but with the "incidental" production of power as a major factor. Others were under the auspices of state and district public agencies which were given millions of dollars from the PWA unemployment relief fund.

IN the fall of 1934, President Roosevelt made a 3-day tour of the Tennessee valley. That his mind dwelt heavily upon the power activities of the TVA (although he referred to power as "a secondary matter") is clear from his public utterances and "off-the-record" press conferences at that time.[17] It was at Tupelo, Miss., that he made a widely quoted remark which was generally assumed to refer to that small city's adoption of public ownership in the distribution of electricity supplied by TVA plants. He suggested that he could use Tupelo as a text that might be useful to many other parts of the nation:[18]

> . . . because people's eyes are upon you and because what you are doing here is going to be copied in every state of the union before we get through.

If any doubt remained concerning the President's abandonment of the policy of giving private enterprise the first or

even an equal chance to distribute power, it was effectively dissipated by his comment in connection with the establishment (May, 1935) of the Rural Electrification Administration:[19]

> *In accordance with the policy of the administration,* preference in these loans was given to applications from public bodies distributing electricity. (Italics supplied.)

THE next year, immediately following the Third World Power Conference in Washington, President Roosevelt was temporarily won over to the power pool idea. This plan, sponsored by some of the President's power advisers, contemplated the joint operation of public and private facilities under an equitable arrangement that would provide an outlet for Federal power and safeguard private investment—with the public interest as the primary consideration.

The more radical public ownership, antiutility group having access to the presidential ear were quick to act. They seemed to have little difficulty in swinging the President back to the left. Seizing upon the issuance of a temporary injunction against the TVA (which everybody knew was in the offing when the power pool conference was called), the President abruptly discontinued the discussions of which he had said:[20]

> The public interest demands that the power that is being or soon will be generated by the Tennessee Valley Authority and at the Bonneville dam and other public works projects should be made to serve the greatest number of our people at the lowest cost and, as far as possible, without injury to existing actual investment. . . .
>
> These discussions indicate agreement to a remarkable degree that this objective can best be attained by coöperative pooling of power facilities within each region, including those of the Federal projects, the privately owned utilities, and the municipal plants, through the joint use of the existing transmission line networks under the control of the members of the pool. Such a pool, it appears, will smooth out the peaks and valleys of separate system operations, reduce the amount of necessary reserve capacity, and postpone the need for investment in new generating facilities.
>
> I am advised that by this means investment in transmission lines and generating facilities could be kept to a minimum, service strengthened, and large economies in operation effected. If so, these great savings, based on fair contractual relations between the public and private agencies participating, should make it possible to bring cheap and abundant power to the gate of every community in the region at uniformly low rates.

When some of the big Federal power projects reached the point where they needed more money than the PWA had available, it became necessary to ask Congress for direct appropriations. That raised the question of validating the program initiated by the President and Mr. Ickes.

There was a little grumbling in Congress, but the "public power bloc" had slight difficulty in corralling an ample margin of votes.

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¶ "THE *Bureau of Reclamation . . . has grown by leaps and bounds as a producer of power. The installed capacity of its generating plants increased from 10,090 kilowatts in 1920 and 32,390 in 1930 to 572,419 kilowatts in 1938. And the peak has not been reached, since Grand Coulee, Central Valley, and other important developments are not yet in production. Grand Coulee alone is planned to add more than 2,000,000 kilowatts.*"

IN legislation setting up an agency under the Secretary of the Interior for the marketing of power from the Bonneville project on the Columbia river, another step was taken toward sewing up electric power for public agencies.

A preference clause similar to that in the TVA Act was enacted, with this addition [21] (which has been characterized as "the dog-in-the-manger clause"):

> Sec. 4(b) To preserve and protect the preferential rights and priorities of public bodies and coöperatives as provided in §(a) and to effectuate the intent and purpose of this act that at all times up to January 1, 1941, there shall be available for sale to public bodies and coöperatives not less than 50 per centum of the electric energy produced at the Bonneville project, it shall be the duty of the administrator in making contracts for the sale of such energy to so arrange such contracts as to make such 50 per centum of such energy available to said public bodies and coöperatives until January 1, 1941: *Provided,* That the electric energy so reserved for but not actually purchased by and delivered to such public bodies and coöperatives prior to January 1, 1941, may be disposed of temporarily so long as such temporary disposition will not interfere with the purchase by and delivery to such public bodies and coöperatives at any time prior to January 1, 1941: *Provided further,* that nothing herein contained shall be construed to limit or impair the preferential and priority rights of such public bodies or coöperatives after January 1, 1941; and in the event that after such date there shall be conflicting or competing applications for an allocation of electric energy between any public body or coöperative on the one hand and a private agency of any character on the other, the application of such public body or coöperative shall be granted.

This was the top of the mountain for public ownership. There has been no pell-mell descent on the other side, but subsequent developments clearly indicate a trend toward dealing with the distribution of public power on an economic basis rather than with an eye singly to the aggrandizement of public agencies.

WHILE Congress was completing action on the Bonneville bill, another measure containing identical provisions for the Fort Peck project in Montana was passed by the Senate. This bill was favorably reported to the House, but adjournment of the session forestalled final action. By the time Congress reconvened the following January, the situation had undergone a change. The House Committee on Rivers and Harbors submitted an entirely new bill, which became a law May 18, 1938.

The Fort Peck Act [22] makes no reservation of power for public agencies. It directs that the Bureau of Reclamation (placed in charge of power marketing instead of a special administrator as at Bonneville) shall "give preference and priority to public bodies and coöperatives." The law does not, as in the Bonneville Act, authorize the fixing of retail rates to be charged by private utility distributors who may purchase Fort Peck power at wholesale.

Next came the matter of clipping the wings of the PWA in the making of grants to municipalities for the construction of electric systems to compete with established privately owned utilities. The issue arose when the Senate began consideration of a new public works appropriation for the fiscal year beginning July 1, 1938.

A recalcitrant Senate seemed determined to end the destructive practice of using public funds, through gifts and loans to public agencies, for the construction of competitive enterprises. The administration, obviously not wishing to let Congress get away with the idea that it could write its own rules, rushed into action with a

Public Funds for Public Ownership

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verbal pledge from the President, transmitted via Senator Barkley, that the policy would be changed. Henceforth, it was understood, no such grants would be made except in cases where privately owned utilities refused to sell their facilities at reasonable prices. The Public Works Administrator, Mr. Ickes, was to be the judge of whether a fair offer had been made by a municipality.

THIS turned the trick. The appropriation bill was passed without the proposed restriction. The "gentlemen's agreement" probably operated against some competitive projects which otherwise would have been financed by the PWA. But it did not prove to be as efficacious as credulous Senators and others had hoped. A few utility properties were sold; some municipalities lost their enthusiasm for public ownership in the face of the prospect of spending their own money —the PWA not being authorized to make grants for the purchase of existing facilities. In other cases offers were made, found by Mr. Ickes to be fair, and rejected by the utilities as being unreasonable; allotments for competitive construction followed.

At least one case reached the courts, on the ground *inter alia* that the city had not made reasonable efforts to acquire the private company's property as required in the PWA's conditional offer to make a grant. The United States Circuit Court of Appeals held that this provision was not a covenant but a condition contained in the offer which could be performed, modified, or waived.[23] The Supreme Court refused to review. So much for the "gentlemen's agreement."

When the 76th Congress (1939) took up the matter of appropriating more money for unemployment relief and for public works, it soon became apparent that the Senate, at least, was determined to write into the statutes an effective restriction against the use of public funds to finance publicly owned competitive enterprises. The first step was taken in connection with the emergency relief appropriation[24] for the Works Progress Administration. It was provided (§ 34) that none of the funds should be used in behalf of any manufacturing plant in competition with existing industries. The "public power bloc" in Congress was still strong enough, however, to force the addition of an exception:

> This section shall not apply to municipal electric plants in communities not now adequately served at reasonable rates.

Since the WPA, owing to other limitations and the general character of its activities, was not in a position to give substantial aid to municipal electric plants, the exception was unimportant.

THE proposed "Works Financing Act of 1939" presented a more vital issue. President Roosevelt came out against continuation of the loan-grant system under which the PWA had been operating. As a substitute, he recommended Federal loans for "self-liquidating" projects. Such projects, however, were to be "in no way competitive with private enterprise."[25]

Notwithstanding this proposed limitation, a bitter fight developed in Congress over incorporating a specific restriction in the bill. The upshot of the matter was the adoption by the Senate (45 to 24) of the following proviso:[26]

> *Provided,* that in order that the competitive system of private enterprise for profit shall be maintained and encouraged, loans under this subsection shall be so administered as not to promote any undertaking in a field now adequately supplied by existing competitive private enterprise or by existing noncompetitive private enterprise at reasonable rates or prices, unless in the latter case a reasonable offer is made to acquire the facilities of such noncompetitive enterprise and such offer has not been accepted, and a finding to that effect has been made after public hearing by the Public Works Commissioner.

The House Committee on Banking and Currency refused to approve a similar amendment. However, since the bill failed to reach the floor of the House for a vote, the issue was left undecided when Congress adjourned.

The latest legislative chapter in this variegated record of public ownership infiltration under New Deal auspices takes us back to the Reclamation Act of 1902, as amended in 1906.

A SEEMINGLY innocuous bill[27] was introduced in the House last June by Representative Compton White of Idaho, chairman of the Committee on Irrigation and Reclamation. The bill originated in the Department of the Interior, of which the Bureau of Reclamation is a part. Its stated purpose was "to provide a feasible and comprehensive plan for the variable repayment of construction charges on United States reclamation projects, to protect the investment of the United States in such projects, and for other purposes." Among the "other purposes" was this proviso:

> That in said sales or leases (of power) preference shall be given to municipalities and other public corporations or agencies and to coöperatives. . . . The provisions of this subsection respecting the terms of sales of electric power and leases of power privileges shall be in addition and alternative to any authority in existing laws relating to particular projects.

The Bureau of Reclamation, it should be noted, has grown by leaps and bounds as a producer of power. The installed capacity of its generating plants increased from 10,090 kilowatts in 1920 and 32,390 in 1930 to 572,419 kilowatts in 1938.[28] And the peak has not been reached, since Grand Coulee, Central Valley, and other important developments are not yet in production. Grand Coulee alone is planned to add more than 2,000,000 kilowatts.

THE proposal to make mandatory the preference accorded to public agencies, and to broaden the field to which such preference should apply, brought forth violent opposition in Congress. The objections were voiced

by Representative Francis H. Case of South Dakota at a hearing on the bill. He said:[29]

> A great deal of opposition we find on the floor to including a power development in connection with electricity (*sic*) comes from those who believe we are setting up some competition or some special benefit to the detriment of existing investments. Now, as a matter of administration, probably all municipalities and public agencies of one sort or another have been canvassed, as well as private companies, but it seems to me that the position of irrigation in developing electric power in connection with an irrigation district is much stronger if we do not provide in the law authorizing a preference has got to be given a public body. If a public company or a private utility already existing is willing to buy power and pay for it the same amount of money that would be bid by a public agency, why shouldn't it be sold to a private company?

The National Reclamation Association, through F. O. Hagie, secretary-manager, told the committee:[30]

> The National Reclamation Association has no desire to see the present power policy of the Bureau of Reclamation altered in any way. If we did we would doubt the advisability of bringing about such an amendment in connection with this bill which seeks to bring about more flexibility in the relationship between the government and the water users.

The committee thereupon struck from the bill the above-quoted language, and the measure was so passed by the House. The Senate committee, however, walked right into the trap. Its report, submitted by Senator O'Mahoney (who had sponsored the amendment to the works financing bill to protect private enterprise), included this comment:[31]

> This (preference) proviso is considered by the committee to be in accord with the policy of Congress first incorporated into law in the act of April 16, 1906 (34 Stat. 116, 117) and reënacted in the act of February 24, 1911 (36 Stat. 930). The proviso in question does not change this long-continued policy under which surplus power from reclamation projects has been disposed of to the mutual satisfaction of privately and publicly owned utilities and without any controversy over the power questions which are such live issues in other parts of the country. It is therefore deemed appropriate that this proviso be included; and the committee has adopted an amendment to H. R. 6984, accordingly.

The amendment, which was accepted by the Senate, provided[32]

> That in said sales or leases preference shall be given to municipalities and other public corporations or agencies; and also to coöperatives and other nonprofit organizations financed in whole or in part by loans made pursuant to the Rural Electrification Act of 1936 and any amendments thereof.

THE payoff came in the conference committee to which the bill was referred because of the differences between the House and Senate versions. The House conferees were Representatives Compton White of Idaho, Knute Hill of Washington, and Charles Hawks of Wisconsin. Mr. White, who sponsored the bill as written in the De-

¶ *". . . the ambitious scheme for a 'little TVA' in Nebraska seems to have petered out and the public power districts, instead of buying up all the privately owned electric utilities in the state, have turned to those same utilities as the logical purchasers of wholesale power from the public plants. Similarly, the Lower Colorado River Authority . . . has entered into a contract with a privately owned utility for a substantial block of power which will be distributed through existing facilities. . . ."*

partment of the Interior, and Mr. Hill are listed among the ardent believers in government ownership and government operation of power plants. They are alleged to have made no sincere effort to uphold the viewpoint of the House but gladly gave in to the Senate conferees on every point at issue, including the preference clause. Mr. Hawks, however, refused to sign the conference report.

Proponents of the preference clause insisted that it did not in fact change the policy under which the Bureau of Reclamation had operated since 1906. This was disputed by Representative Case in these words:[33]

> There is all the difference in the world between a clause permitting "preference for the sale of power to municipal purposes" and a mandatory clause requiring "preference to municipalities and other public corporations and agencies and coöperatives" in the sale of that power. The net effect of the amendment is to change the bill from a water conservation measure to a power promotion measure. . . . Existing law only gives preference to sale for municipal purposes, not to municipalities as distributors of power.

The report of the conference committee was presented to the House on the eve of the adjournment of Congress. Fearful that the whole measure might fail of enactment, thereby depriving settlers on irrigation projects of needed benefits, many opponents of the preference clause submerged their objections and voted to accept the report. The bill thus became a law.[34]

THE importance of this incident lies not in the victory of the "public power bloc" but in the interposition of greater obstacles to the Juggernaut which had been rolling over private enterprise almost without opposition. There can be no doubt that sentiment in Congress is crystallizing against the ultra-radical New Dealers' program so succinctly stated by Thomas G. Corcoran (according to Raymond Moley[35]):

> . . . twenty years from now the government will own and operate all the electric utilities in the country.

Further indications that the sweep of public ownership has been stalled are to be seen in the experience of some of the big power projects financed by the PWA. The economic necessity of finding profitable markets for their output has relegated the socialistic program to the background. Thus, the ambitious scheme for a "little TVA" in Nebraska seems to have petered out and the public power districts, instead of buying up all the privately owned electric utilities in the state, have turned to those same utilities as the logical purchasers of wholesale power from the public plants. Similarly, the Lower Colorado River Authority, a Texas state agency, has entered into a contract with a privately owned utility for a substantial block of power which will be distributed through existing facilities and thus serve the public interest without wrecking private investment.

In connection with this Texas situation, President Roosevelt reverted in a measure to his earlier attitude on the subject of power distribution. Referring to the contract between the Authority and the utility, he wrote:[36]

> It shows that it is possible for a neighboring private utility to coöperate with a public power development to the advantage of both and the public. I hope that this coöperation will be manifested in other areas where similar problems arise.

POSSIBLY this expression of approval of a policy of coöperation en-

couraged Dr. Paul J. Raver, newly appointed administrator of the Bonneville project, to indicate a disposition to take similar action in the Pacific Northwest. Obviously viewing the situation realistically, Dr. Raver said of the Bonneville power plant:[37]

> It must be linked with the other hydro and steam plants of the region. Such a program will not only assure a more stable and reliable power system, but it will provide millions of dollars' worth of additional prime power for industries that seek low-cost electric energy. . . . By hooking Bonneville up with the network of private and public lines of Oregon and Washington, we are extending the influence of low-cost Columbia river power to the far corners of the state.

So the pendulum is at least on the verge of moving in the opposite direction from the course it has been traveling since 1933. Present indications justify the assumption that the free flow of public funds to promote public ownership of local electric utilities has been stopped.

The day may not be far distant when the sale of electric power from Federal plants will be handled on an economic basis which will give due recognition to existing facilities and provide for widespread distribution in the true public interest.

Footnotes

[1] 34 Stat. 117.

[2] Address at Portland, Or., September 21, 1932. *The Public Papers and Addresses of Franklin D. Roosevelt,* Vol. I, pp. 738-9.

[3] Address at Syracuse, N. Y., October 23, 1928. Ibid., Vol. I, p. 50.

[4] Message to Legislature, Ibid., Vol. I, p. 172.

[5] 49 Stat. 848.

[6] 45 Stat. 1057.

[7] Op. of Solic. for Int. Dept., Jan. 6, 1930, 53 L.D. 1.

[8] 48 Stat. 58.

[9] 49 Stat. 1075.

[10] Executive Order No. 6251, August 19, 1933.

[11] Letter to Secretary Ickes, July 5, 1934. *The Public Papers and Addresses of Franklin D. Roosevelt,* Vol. III, p. 340.

[12] Letter to Secretary Ickes. White House press release, October 14, 1939.

[13] Memorandum of January 30, 1935, Administrator Ickes to Henry T. Hunt, chairman, Electric Power Board of Review. *Grants-in-Aid under the PWA.* By J. Kerwin Williams, p. 157. (Columbia University Press.)

[14] PWA release No. 1522, August 2, 1935.

[15] Executive Order No. 6251, August 19, 1933.

[16] Senate Joint Resolution No. 74, approved April 14, 1934.

[17] *The Public Papers and Addresses of Franklin D. Roosevelt,* Vol. III, p. 458 *et seq.*

[18] Ibid., Vol. III, p. 461.

[19] Ibid., Vol. IV, p. 174.

[20] Ibid., Vol. V, p. 371.

[21] Public Law No. 329, 75th Congress, approved August 20, 1937.

[22] Public Law No. 529, 75th Congress, approved May 18, 1938.

[23] Southwestern Gas & E. Co. *v.* Texarkana (1939) 104 F(2d) 847, 31 PUR(NS)—.

[24] Public Res. No. 24, 76th Cong., approved June 30, 1939.

[25] President's letter to Senator Byrnes, June 21, 1939. *Congressional Record,* June 24, 1939, p. 11045.

[26] *Congressional Record,* July 29, 1939, pp. 14467, 14509.

[27] H. R. 6984, introduced June 26, 1939.

[28] Federal Power Commission report, *Electric Power Statistics 1938.*

[29] Hearings before the House Committee on Irrigation and Reclamation, June 15-29, 1939, p. 120.

[30] Ibid., p. 139.

[31] *Congressional Record,* July 18, 1939, p. 13117.

[32] Ibid.

[33] *Congressional Record,* July 27, 1939, p. 14172.

[34] Public Law No. 260, 76th Congress, approved August 4, 1939.

[35] *After Seven Years,* by Raymond Moley, p. 334. (Harper & Brothers, publishers.)

[36] Letter to Representative Lyndon Johnson of Texas. *New York Journal of Commerce,* July 22, 1939.

[37] Address before American Institute of Mining and Metallurgical Engineers at Portland, Or. *Portland Oregonian,* October 17, 1939.

Turn of Antiutility Tide

Belief that the current of public opinion is setting in against the public ownership bloc

In the opinion of the author it will not be the utilities which will whir out of the brush when the congressional huntsmen march up with their shotguns. It will be the POB and the government-owned power plants.

By HERBERT COREY

If I were a utility mogul—which I am not by the distance between here and the nearest Bengal Lancer—I would be humming cheerily to myself these days. I would even be trying to remember the quotation about the enemies who had been delivered into my hand. This will not be a popular sentiment with the moguls, I know. After seven years of catching all the breaks in their faces they hum, when they hum, like a dynamo with a loose rivet. For all that I feel sure I am right.

They will have the chance of their lives during this congressional session of 1940. The Public Ownership Bloc —and for the sake of space that title will be abbreviated to POB, following the excellent example set by the Russians and the New Deal — the POB, then, led with its neck a few months ago. Its timing was bad. It undertook to put over the Billion Dollar Grid plan in the industrial section of the East under cover of the national defense program. Unless the information I have been able to get is all bad, the POB will fail in this scheme. What it has triumphantly succeeded in doing, however, has been to put itself on trial. For the first time since 1933 it will not be the utilities which will whir out of the brush when the congressional huntsmen march up with their shotguns. That agitated bunch of feathers in the air will be the POB.

Those who think I am wrong are urged to watch what will happen on Capitol Hill.

The POB advanced its billion dollar plan for the future just at the time when popular scepticism was beginning to make itself felt about what had been done in the past. If the general taxpayer is being unduly burdened to favor a theory and a few local taxpayers, the public intimated that it wanted to know. It heard charges that the publicly owned utilities were not as efficiently operated as the private utilities, and that the public utilities' rates

were higher, and that millions of dollars had been spent in pursuit of a jack-o'-lantern. Men who could not be disregarded had been insisting that the public projects—TVA and Bonneville and Coulee and the rest—be made to submit to an audit by unprejudiced accountants:

"Everything may be all right," these men said, "but let's find out. It isn't possible that any set of men can be as all-wise and selfless as the government's administrators believe themselves to be."

THE POB said there is a shortage of current. It could not prove it. Mere assertion is not passing at par nowadays. The Army Engineers did not support the claim that the Big Grid is an essential part of the scheme of national defense. Taxes are going higher and the national debt limit of $45,000,000,000 is being threatened. It was at this time that the POB came in with its demand for more millions—anything up to a billion—for the linking up of a grid which, if needed, the private utilities will link up for themselves. It was widely charged that the aim was to take control of the utilities from their owners and turn it over to a group of adventurers and experimenters.

If the utility magnates do not hum, they are deaf to the acoustic possibilities of the situation.

When the attack on the utilities began, away back in 1933, they were in the national dog house. Some of the chief figures in the industry had been misbehaving. Not all of the utility chiefs had settled down after a period of pioneering in an epoch marked by wild expansion in almost every line. Rates were often not justified by the costs and the ratepayers could prove it. Some of the chiefs meddled in politics and were caught at it, and some of the local managers seemed to go out of their way to irritate the public.

"I want you to take back this iron," said a friend of mine to a local manager. "It won't work."

"I'll not take it back," said the local manager, "and you'll pay for it—or else."

A BAD-tempered boss controlling an indispensable monopoly can stir up plenty of trouble for his industry. The industry employed educators to write booklets on the nature and use of electricity. There is not an objectionable statement in any one of them that I have seen, but the fanatic public ownership advocates cried that the schools were being "bought." The Federal Trade Commission held a smearing investigation of the industry. The growth of the business had been furthered by the holding company device. It could not be what it is today without the holding company. But some of the holding companies were about as bad as the POB said they all were, and that was awful. The industry should have taken account of itself and cleaned house but it did not. It got mad and kicked the door.

When the TVA "yardstick" was proposed, the country was in a mood to use it to beat the utilities. It was well greased, too, with humanitarian, riparian, educational, and soothsaying schemes. Any politician could see that it was a "natural." The original TVA was made up of men who were certain to get a good press. One Morgan was a

great hydraulic engineer and known across the country as an educator who had chased the termites out of Antioch College, and another Morgan had fought the cattle tick to the death throughout the Southwest and improved the breed of critters on the farm, and Lilienthal had made a reputation as a member of Wisconsin's commission to regulate the utilities. The public ownership bloc of the day got more printed columns than had been given to anything since the World War.

THE politicians saw their chance, too. The map recently issued by the *P. U. R. Executive Information Service* shows that "the total cost of the Federal power program" was $1,741,843,264 at the date of publication. The eventual total will run higher. On the other hand, there will be deductions for various allocations for multiple-use facilities, which cannot as yet be estimated. Rhode Island was the only state that did not get some of the gravy. The public ownership plan for a time was the most thoroughly loved thing that had ever been placed before Congress. Count the talking points in its favor:

Money to be spent all over the map. The money, too, was taken from the Federal Treasury. The home-town taxpayer is apt to make himself believe that he will never get a bill for his share of that kind of money.

An unpopular industry was to be chastised. The public had never been convinced by the industry that only a slight share of its unpopularity was deserved. The utility magnates seem to have taken Benjamin Franklin's slogan in reverse, and decided that rather than hang separately they would all hang together.

Souls were to be saved; silk stockings promoted; cows drained by electricity; and father would sit up in the best room reading the encyclopedia at night instead of stumbling upstairs in the wake of a tallow candle. Rivers were to be controlled; millions of acres of farm land added to the millions of acres we were taking out of production because they could not be made to pay; boys would stay on the farm; and the national defense plan made practical. The nation did not listen to the few voices piped up against this program. Who would post a "No Hunting" sign in the Elysian Fields? No one would be listening even now, in the opinion of a great many observers, if the European war had not gotten into our national hair. When the war threatened to add to the growing burden of taxes and the $45,000,000,000 debt limit, the sum was trouble.

¶ *". . . in 1917 the reserve electric power amounted to about 6,000,000 horsepower and the shortage the Big Gridders had cried about had not existed. The reserve power in 1938 amounted to 17,500,000 horsepower even at a time when the combined demand of all industrial, residential, and commercial utilities reached the year's peak demand."*

THE POB thought the war offered them perhaps the final chance to secure government control of the utilities industry under the New Deal as at present constituted. The POB had not added all the figures.

Enough has been printed about the Great Grid plan they cooked up. It was admitted without a dissenting voice that if by any foul chance we were to be forced into the war, we would need all of our resources. The POB asserted that in 1918 we were experiencing a shortage of power. They asserted that the industry had not expanded in the ensuing twenty years to meet the demands for power which would be made when business was again normal, not to speak of the abnormal demands which would be made in war. The POB had nothing to say in response to the industry's complaint that the actions of the government had kept it from getting the equity money it had always previously been able to secure. A business that had been one of the most progressive and certainly one of the soundest before the POB began its attack through TVA was no longer a favorite with the investor.

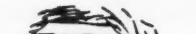
"We must have more power," cried the POB.

President Roosevelt did a very sound and sensible thing. He appointed a committee headed by Assistant Secretary of War Louis Johnson to look into the power situation. Johnson had become known to the industrialists through his plan for the mobilization of industry in the event of war. Strictly speaking, the plan dated back to Bernard Baruch's days, following the first World War, but Johnson, coöperating with Assistant Secretary Edison of the Navy Department, had made it a live and glowing fact. Johnson is practical in mind and operation and not inclined to chase rabbits when he goes hunting for deer. Industry had learned to trust him. It is a regrettable fact that some leaders of the utilities, having for seven years been roughly handled by the administration, were inclined to antagonize the Johnson committee. In time they learned that the committee was only doing what everyone admits should have been done.

It was finding out the facts.

THE result of the Johnson committee inquiry was that certain weak spots in the utility set-up were discovered and the industry promised to see that they were patched up. It was at this time that the Billion Dollar Grid first appeared. The POB made a plan for the interlocking of all the great plants in the East, if the companies affected were not willing to make the changes the POB thought desirable—at a guess the POB's wishes at this moment were being expressed by "Tommy" Corcoran, his inventive legal partner, Ben Cohen, Secretary of the Interior Ickes, Federal Power Commission's Leland Olds, all somewhat sheltered and aided by Senator Norris. There were a score or more of others, of course, but these were the heads.

As the interlocking links were to be primarily a part of the defense program, it was proposed that the government assert its control. Money was to be loaned by the RFC for the link building if the privately owned companies either lacked the money, or felt that building links which would be useless in peace time could not be recommended to their stockholders. This



The St. Lawrence Project

"Soft coal men say a St. Lawrence project in operation would preëmpt the market for 7,000,000 tons of bituminous coal annually. They will call attention again to the inroads on the soft coal market that have been made by the TVA and other hydro-electric projects, and prove once more that modern installations can produce power by using coal more cheaply than by using water. They will also observe that many thousand miners who want to work are on relief."

struck a remarkably tough snag in Jesse Jones of the RFC. He would lend money, he said, on any proposition that seemed good from a business point of view. He would not take the song of the humming bird as good security, and he had been told that this bird is almost inaudible. For all that, and with due regard to Mr. Jones, this early grid plan could have been put through if Mr. Roosevelt had gotten in behind it.

He did not get in and the first plan turned mouldy.

There has never been any doubt of Mr. Roosevelt's personal attitude. He does not like the utilities. He is on record, however, as saying that he does not favor government ownership. The POB's plan would have given the government control without letting the government in for any losses. If the grid were to be immediately available in war time, then it must be supervised in peace—so ran the argument—and the supervision of the grid meant in fact the bossing of the gridded area. Mr. Roosevelt did not favor it, or did not favor giving the POB half a billion dollars or more. It may be he thought the plan was unworkable, or not needed at the moment, or ill advised politically. Perhaps he was influenced by the unhappy state of the national finances. He did not disfavor it, either. He merely said nothing.

Those who desire to understand operations in Washington should realize that Mr. Roosevelt often operates in precisely that way. An interesting suggestion is made to him, or he makes it to others, and he tosses the suggestion before the people to see what happens. Sometimes the members of his personal and political circles are at violent odds about it. Mr. Ickes shouts off in one direction, his mane in the air, and

Mr. Morgenthau meekly but persistently creeps in another, and Secretary of State Hull—the reporters like to write of his "spaniel eyes"—picks up his stake of martyrdom and does his hillbilly damnedest to bust it over some other cabinet member's head, and Miss Perkins of Labor gets out her perihelion and makes it snap, and Secretary of Agriculture Wallace finds in the tea leaves a new plan to aid the farmer, and all the positions possible on any given proposition are adopted by the administrative heads. One sometimes gets the impression of utter confusion. That may often be justified. It is also the case that after an idea has been flapped about for a time, some definite plan sometimes drops out of it.

THE POB's grid fell out of sight in the months immediately following the report of the Johnson committee, but the works went on underneath. The President dismissed the War Resources Committee headed by Edward Stettinius in order to smooth out a situation on Capitol Hill, and keep Senator William Borah of Idaho from making a tumultuous allegation that Mr. Roosevelt had gone over to the solvent interests. Then the POB gathered its strength for an attack. Senator Norris made charges against the Commonwealth & Southern which were well advertised in advance by the POB to their favorites among the Washington correspondents. Wendell Willkie was able to give chapter and verse in his refutation of the Norris charges, but not many people read the second day's story. David Lilienthal made a scrap of paper out of his treaty of peace with the Commonwealth & Southern. Harry Slattery, Rural Electrification, and Leland Olds, FPC, joined Secretary Ickes in outcries. The President named a National Power Policy Committee to succeed the Johnson committee.

Johnson was retained in the NPPC, but he was the only conservative. Other members were all rated as antiutility—Ickes, Olds, Slattery, Carmody, Jerome Frank of the SEC — with Frederick Delano as a silent member. Ben Cohen was general counsel and Tommy Corcoran was a background shadow. Mr. Olds went to the President with an alarming report of power shortage. The public began to fear that we really might be forced into war. It was discovered, ten years after the fact, that the Army is short in every essential. Its horses average sixteen years old. It has not enough antiaircraft guns to protect Hyattsville. It has not enough trucks to handle the spring mobilization properly. All the signs pointed toward a whooping acceptance of the Billion Dollar Grid and anything else that might strengthen the program of national defense.

Then events applied a wet towel to the fevered national forehead.

IT appeared that there was no immediate prospect of war. The antiwar attitude of the public was made clear. Americans paid about forty billion dollars for a share of the first World War and twelve billion dollars in uncollectible debts are still on the books. The Army's rearmament plans are coming along swimmingly. Opposition to lifting the $45,000,000,000 national debt limit was growing more vigorous. Mr. Roosevelt was again talking of a cut in the budget and gave no encour-

agement to the Big Grid advocates. The U. S. Chamber of Commerce reported that:

Even in 1917 the reserve electric power amounted to about 6,000,000 horsepower and the shortage the Big Gridders had cried about had not existed.

The reserve power in 1938 amounted to 17,500,000 horsepower even at a time when the combined demand of all industrial, residential, and commercial utilities reached the year's peak demand.

The USC of C is a favorite target for the New Deal's arrows, but in Congress it is recognized that this body is made up of business men and that it would not last overnight if it were proven to have misrepresented facts of vital importance to industry and commerce. Secretary Ickes complained that the C of C's first release did not go into details, and was promptly furnished with the full report which fairly bristled with them. The net result has been, so far as observers have been able to detect, a hardening of the resolution of Congress to discover what all the shouting has been about. If the New Deal can prove that it has wisely expended the one and three-quarter billion dollars on public power projects identified on the *P.U.R.* map, other moneys will no doubt be appropriated for the same purpose in the future. But the congressional tendency —say the observers—is to go through those expenditures with a lantern.

It was this moment that the Big Grid advocates selected to repeat and reëmphasize their demand that anywhere from half a billion to one billion dollars be spent for a project that was not needed. The utility industry had already complied with every suggestion made by the original Johnson committee. It had put out or contracted for close to $700,000,000. It stood ready to make any further additions at its own cost where desirable. The charge was repeated on many editorial pages that the Big Grid was merely a clever device through which government control of the industry could be secured. Congressmen in private conversation resented the suggestion credited to Secretary Ickes that a new government corporation be set up with authority to borrow the money needed for the Big Grid. This was an obvious effort to by-pass the hostility Congressmen were showing to a further increase in the national debt. An essential part of the grid program has been the development of the St. Lawrence project, which the Senate re-

¶ "The [*1940*] *session* [*of Congress*] *may run five months and detonate at every pore during that period. The privately owned utilities at last have their chance to save a $14,000,000,000 tax-paying industry. If they can prove that government ownership has been extravagant and inefficient, the observers say they will save it. Congress is in a mood to listen. The $45,000,000,000 debt limit and the growing taxes have turned the tide.*"

fused to ratify in 1934. The congressional opposition to this plan seems to have hardened in the intervening five years.

The Big Grid plan has, in fact, spotlighted the failures of the public ownership program so successfully that Congressmen are making ready the material for an inquiry into it.

SOFT coal men say a St. Lawrence project in operation would preëmpt the market for 7,000,000 tons of bituminous coal annually. They will call attention again to the inroads on the soft coal market that have been made by the TVA and other hydroelectric projects, and prove once more that modern installations can produce power by using coal more cheaply than by using water. They will also observe that many thousand miners who want to work are on relief. The claims that municipally owned plants furnish power at lower rates than privately owned plants will again be challenged in Congress. Frank A. Newton recently noted that the March, 1939, report of the FPC shows that residential rates charged by the private companies are lower than those of the municipally owned companies, without regard to the taxes paid.

This tax matter is an especially vulnerable bastion in the POB's wall. Newton states that the U. S. Census report for 1937 shows that the municipal plants paid 1.5 per cent of their revenue in taxes and the privately owned plants paid 14.2 per cent, and that the same census shows the private plants pay their employees on the average 16 per cent more. In the Tennessee valley the refusal of the TVA to pay taxes at the same rate paid by the dispossessed Commonwealth & Southern has "practically destroyed a score or more of counties along the river," according to Congressman May of Kentucky. Senator Norris has admitted that the TVA cannot stand fair competition with private companies:

"If we go to the extreme (that the local property of the TVA shall be subject everywhere to taxation under the local laws of taxation), Senators can see the TVA would be out of business in three months."

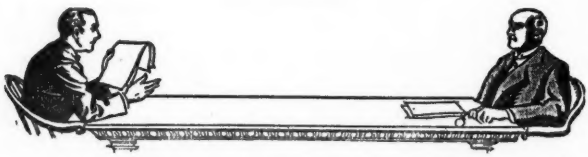
MR. Norris may not be right in this. He has been notably wrong in other matters pertaining to the utilities. He secured, for example, thirty-odd million dollars for his "little TVA" in his home state of Nebraska, which seems to have been a lamentable failure. L. W. W. Morrow, western editorial director of the *Electrical World*, after an exhaustive inquiry into Mr. Norris' private TVA, reported that:

> It is uneconomic and has a hard financial, political, and operating row to hoe before it is established as a going concern. . . . It is doubtful if either power or irrigation will ever bring in sufficient revenues to pay for the costs incurred.

Congress will certainly be asked to inquire into the highly controversial matter of fair auditing. TVA's critics say its "real" deficit in the fiscal year ending in 1938 was $2,965,000, instead of the admitted deficit of $310,000. Carl A. Bock, chief consulting engineer of the TVA, recently resigned because of his belief that "TVA could take greater steps to insure economy and efficiency. Valuable opportunities can be overlooked or large sums needlessly spent unless such projects are subjected to independent searching

analysis." General taxpayers are making themselves heard. "It would be unjust," said *The Washington Post* editorially, "to tax the people of an entire country in order that a favored group of power consumers in the Tennessee valley might enjoy the benefits of ultra-cheap government-produced power."

Unless all the signs are wrong, it will be the POB and the government-owned power plants that will be under fire during the 1940 session. All thought that this will be a short, mild, love-and-kisses parliament seems to have been dismissed by the observers. The session may run five months and detonate at every pore during that period. The privately owned utilities at last have their chance to save a $14,000,000,000 tax-paying industry. If they can prove that government ownership has been extravagant and inefficient, the observers say they will save it. Congress is in a mood to listen. The $45,000,000,000 debt limit and the growing taxes have turned the tide.



The Futility of Managed Economics

"In the progress toward recovery the United States takes rank in the twenty-first place among the twenty-two nations, while France is in the twenty-second place. Both nations share in common two similarities in their depression record. Both have followed programs of managed economics in which government has left unchanged the capitalistic structure of business, while interposing progressive regulation over its operations, and meanwhile incurring huge deficits to finance subsidies and relief programs. In both countries these developments have been accompanied by great reductions in the investment of private capital in business enterprise.

"Here is the key to the central problem of this depression. In this country and in France the governments imposed upon business operations progressive and continuously changing regulations, restrictions, interventions, and state competitions. As these interferences multiplied, and as taxation mounted, our national savings accumulated by private investors almost stopped flowing into business enterprises. The only reason why investors take present risks is that they hope to receive future gains. When they find the risks too greatly increased, and the prospects for profits too much reduced, they stop making new investments and either buy riskless bonds or leave their money idle in the banks."

—Leonard P. Ayres,
Vice President, Cleveland Trust Company.

The Congressional Economy Line Forms to the Right

A Washington news correspondent's appraisal of the prospects for utility legislation in the current session of Congress.

By HAROLD BRAYMAN

No matter what pitfalls may lie ahead for the utility industry as a whole, a survey of informed congressional opinion at the outset of the current session reveals that there has been no occasion in the last seven years when the industry has had as little to fear in the form of anti-utility legislation by Congress.

This is not due to any sudden friendliness toward the industry on the part of those government officials who have been needling it for years. There are still the Ickes, the Norrises, the Rankins, the Lilienthals, the Corcorans, and the Cohens who believe that a power company deserves no better treatment than would be given to a nest of rattlesnakes.

This group, far from satisfied with the supposed "peace" that followed the settlement of the Commonwealth & Southern-TVA dispute, have recently started several new agitations. In so far as they can stir up the old fight through the use of purely administrative powers, as contrasted with legislative action, they may keep the pot boiling.

But when it comes to getting legislation through Congress, they have not only the difficulty of the same conservative trend that was so evident in the first session of the Seventy-sixth Congress, but they are up against a new situation which will make it even more difficult for them to push through any legislation requiring appropriations.

President Roosevelt has started the session off on a strong note of economy. His budget, with expenditures substantially reduced below those of a year ago, places the burden on Congress if it adds materially to proposed appropriations. The President in this message took a more positive stand against unnecessary expenditures than he has since the night in October, 1932, when he made his famous economy speech at Forbes Field in Pittsburgh from a platform erected over the second base. It might be suggested that in this respect January, 1940, marks the first time since

then that he has been out of left field.

At any rate, if Congress wants to appropriate money for things not in the budget, the legislators are placed in the position of having to find the way to finance their spending either by taxes or by taking the course which many Congressmen, on the eve of a national election, regard as suicidal; namely, voting to raise the $45,000,000,000 debt limit.

This is not meant to imply that Congress will make no appropriations not contemplated in the budget; it merely means that it will make very few from which the political returns to a majority of the members are not direct and obvious. There is little antiutility legislation involving appropriations where such returns are either direct or obvious, except to a comparatively small minority living in the districts involved.

Furthermore, the keenest observers expect the 1940 session of Congress to do little that is new in any field. The history of preëlection Congresses is that they debate furiously, propose voluminously, tangle themselves up in a maze of politics, and do practically nothing. So, as this session gets under way, the prospect of any antiutility legislation of much importance being enacted is remote. The antis may propose, Congress most likely will dispose, and the likeliest disposition is the commodious big hopper into which nine-tenths of all bills fall, never to arise again.

AND if the administration's utility critics, realizing that they may be down in the fourth quarter of the game, start any desperation forward passes, chances are that they will be intercepted or grounded on Capitol Hill.

The most spectacular move likely to come out of the New Deal quarter is the proposal for construction of a high-tension government grid system linking the public and private power producers and distributors east of the Mississippi into a vast industrial power system.

The utilities expect the old hidden ball play here—the idea being brought forward not as a power project at all but as a national defense plan. The most meager survey of the sentiment in this Congress would convince anyone that such a gigantic project as the so-called grid system would have no chance at all of congressional approval if presented solely as a power project. The only hope to put the idea over is to treat it primarily as a national defense proposition.

The backers of the plan seem well aware of this and every preliminary move that is being made is based on the national defense idea. Secretary Ickes, chairman of the President's National Power Policy Committee, put it definitely on this basis in opening the first meeting of the regional representatives of power companies.

New Dealers complain that there is a power shortage which, with industry operating at full capacity as in war time, would amount to 33 per cent in some localities. They contend that it is necessary, if we are to avoid an industrial breakdown in time of war, to begin at once the construction of additional generating capacity of approximately 6,000,000 kilowatt hours.

PRIVATE utility experts, led by C. W. Kellogg, president of the Edison Electric Institute, scoff at this. They

declare that the estimated shortage of power is greatly exaggerated. They hint that it is nothing more than propaganda for the extension of government ownership. The hearings have tended to show that the private companies have already anticipated future needs to some extent by authorizing improvements, and that they can expand quickly.

Almost every year recently the utilities have grown accustomed to seeing a new power policy scheme emerge just as Congress convenes. The last one, about a year ago, was the appointment of a committee under Louis Johnson, Assistant Secretary of War, for a study of power tie-ins and plant expansions that might be needed to insure an adequate supply and eliminate "bottle-necks" of electric energy in event of war. The announcement a few weeks ago that the National Power Policy Committee would take over the work of the Johnson committee puts this idea into the hands of a group, the majority of which is strongly anti-utility and ardently in favor of public ownership. That during the life of this Congress they will bring forth in some form or other the proposal for a national grid system seems a strong possibility.

Then the issue will be joined before Congress. How is the national legislative body likely to react?

It is an easily ascertainable fact that as a strictly power policy proposition the grid system plan would meet tough going in Congress. One of the first angles from which it is certain to be assailed is that of cost. The estimates range from $500,000,000 to $600,000,000, but like many other government projects the initial appropriation would be small, perhaps even as little as $25,000,000.

All the opponents of government ownership would be lined up against the plan as a first movement in that direction. They feel that certainly a collateral purpose of its sponsors is to get a publicly owned transmission line tie-in with the private companies. The minute that happens the government would be, at least to a certain degree, a senior partner in the industry.

BUT as a national defense project it is quite a different thing, and to

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¶ "THE *proposed national grid system has elements of extreme vulnerability from a military standpoint. It would be easier for an enemy bomber to find a high-powered transmission line, follow it and knock it out, than it would be to locate an obscure power plant. Similarly a hydroelectric plant is a much easier target than isolated steam plants because all the bomber has to do is to follow the river until the plant is located. Furthermore, just as the largest kettle is rendered useless by a single small hole, any sort of a direct hit along the broad, visible expanse of a dam's apron is likely to empty its reservoir, becalm its turbines, and flood its lowlands. Therefore, the military opinion is that the most easily defended power system is small scattered steam plants.*"

judge it by this standard the views of the general staff and military experts would undoubtedly be sought by the committees to which the legislation is referred. The final action of Congress might be greatly influenced by their ideas since the average Congressman would probably give more weight to the views of the general staff on any national defense proposal rather than to the Corcoran-Cohen strategists.

This grid system plan is nothing new to the Army general staff. Since the National Defense Act of 1920 they have made constant and thorough explorations into the power needs of the country in the event of war and have their own ideas on the subject.

Private statements of individual members of the general staff show substantial doubts in their minds. The proposed national grid system has elements of extreme vulnerability from a military standpoint. It would be easier for an enemy bomber to find a high-powered transmission line, follow it and knock it out, than it would be to locate an obscure power plant. Similarly a hydroelectric plant is a much easier target than isolated steam plants because all the bomber has to do is to follow the river until the plant is located. Furthermore, just as the largest kettle is rendered useless by a single small hole, any sort of a direct hit along the broad, visible expanse of a dam's apron is likely to empty its reservoir, becalm its turbines, and flood its lowlands. Therefore, the military opinion is that the most easily defended power system is small scattered steam plants.

On the other hand, there are features of the grid system which appeal to the military view. First is the question where war will exact its greatest demands and where wise defense will make it necessary to concentrate production. It is all very well to figure out in advance that such a plant will be used for munitions and such another plant for aircraft production, but in the event of actual war these advance plans, so carefully worked out, may have to be shifted greatly to meet actual exigencies of situation.

A HEAVY industrial load planned for the New York area might have to be shifted suddenly to the interior, and the big system of power lines would be an advantage in the rapid shift of power for industrial uses from one section to another. Serious shortages of power during the World War were officially recognized by the Secretary of War in a report in 1921.

Proponents of the grid system make much of this, but opponents say the situation is not comparable today because of the vast expansion which has taken place in the industry since 1917, and because of much better interconnection than existed then. Some utility experts now contend that the existing excess capacity of power over and above requirements for normal reserves is about 20 per cent.

When Congress seeks the advice of the military experts it will also find that, even though they may be somewhat guarded in their statements, they will be weighing the relative values for defense of expenditure of money for the national power transmission system and the expenditure of a similar amount for actual military equipment. The more closely national defense expenditures are held down by the President and the Congress in the name of

economy, the more impressive this point will be to the gentlemen of the general staff.

A good illustration is the difficulty now being encountered in supplying infantry units with the new semiautomatic Garand rifles, total production capacity for which has only recently risen above 100 a day. In the privacy of executive sessions of the functioning committees, military men may be somewhat more frank about the relative national defense values of power lines and such things as Garand rifles than they can be publicly.

ANOTHER practical difficulty in the pathway of the grid system, if put forward as a national defense project, is that it would then have to be routed in the House through the Military Affairs Committee, the chairman of which is Andrew Jackson May, archfoe of public ownership. That may be an angle that has not yet occurred to those great political strategists, Thomas G. Corcoran and Benjamin V. Cohen, but it occurs immediately to anyone who knows the practical workings of Congress.

By the transfer of the study of power needs from the Johnson committee to the National Power Policy Committee, the whole subject of new government-owned transmission lines has been subjected much more directly to the Corcoran-Cohen influence. Out of eight members of the committee, six are openly for government ownership or lean strongly in that direction.

President Roosevelt has been speaking softly on the whole subject, but what he has said is sufficiently broad and general that he is not definitely committed to much of anything in the way of policy. The antiutility group which is dominant in the National Power Policy Committee has the ear of the White House to such an extent that any prediction at this time what the final administration position will be is hazardous.

There can be no doubt that with the approach of the 1940 elections every political effort is being made to build up power once more as a live public issue. The same old tactics to create the impression that whatever happens to the utilities will serve them right are being used again. Such New Deal advance guardsmen on the utility issue as Secretary Ickes, David E. Lilienthal, Federal Works Administrator John M. Carmody, REA Administrator Harry Slattery, Leland Olds, chairman of the Federal Power Commission, Senator George W. Norris, and Senator Lister Hill of Alabama have all been sounding off in the last few weeks—some of them after many months of comparative quiet.

No less a spokesman for the utility industry than Wendell L. Willkie interpreted these attacks recently with the statement that "there is a deliberate and unprincipled campaign in process to smear utility companies and their officials."

BY force of circumstances which have been generally anticipated, the SEC seems destined to make the year 1940 very critical for the great public utility holding company systems subject to its special jurisdiction under the 1935 Utility Act. Up until 1940, the SEC's actual accomplishment under the celebrated § 11 (alias the "death sentence," alias the "rejuvenation clause") has been more or less perfunc-

The SEC in a Delicate Spot

"UP until 1940, the SEC's actual accomplishment under the celebrated § 11 (alias the 'death sentence,' alias the 'rejuvenation clause') has been more or less perfunctory and preliminary. The period has been well spent in preparing the industry for the inevitable 'integration' operation. But the time is now at hand for the actual carving to begin in a serious way. The patient is on the operating table. And while the SEC has so far indicated a well-intended determination to make a nice clean job of it with no unnecessary complications, and with the industry on the whole making a quick, sound recovery, there are signs of inside and outside pressure from the Left which may shake the hand that wields the scalpel."

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Antiutility Congressmen are already complaining that the SEC has waited too long and has been too mild and too patient. More to the point perhaps are the recent alternative opinions in the Consumers Power Case which revealed a membership so finely divided on important regulatory issues that Chairman Frank, who holds the balance of power, seems to be almost suspended in mid-air. (See p. 102.)

Again, there are factual complications which necessarily add to the pressure. For example, a recent survey by the SEC found that "there are at least 20 holding companies with consolidated assets aggregating $6,500,000, which must be recapitalized" because of arrears on preferred stock dividends. It is quite likely that in spite of all these distractions the SEC will live up to its early promise of reasonable and temperate administration of the Holding Company Act. But it will be only after a period of pretty anxious and watchful waiting.

In the findings of the SEC in the recent Consumers Power Case, the commission did not require competitive bidding for securities in this particular instance, but served notice that in the future it might make some such requirement.

"Although the commission might deem it desirable in the future," it said, "to adopt a rule requiring competitive bidding, that possibility clearly should have no effect on the decision in this case since there is concededly no rule now in effect which requires such bidding."

That vague suggestion that the commission "might deem it desirable in the future to adopt a rule requiring competitive bidding" came as a reminder of the additional regulation which may be imposed by administrative order.

Definitely in the background of all moves directed toward the utilities is the plan credited to Corcoran and Cohen which would coördinate the 20 or more Federal agencies which now operate power projects. It would be used as a "big stick" to effect a strong official front for any new campaigns against the private power companies.

Under this plan there would be brought into the Interior Department such related power projects as Bonneville, Fort Peck, TVA, REA, and other agencies. Big stumbling block to this plan is the irrevocable opposition of David E. Lilienthal, who wants the TVA to go it alone unhampered by any direction from above. Since the plan can only be carried out by legislative action, this split in the New Deal forces would seem to doom it.

New Dealers are passing the word around quietly to await the Supreme Court decision in the Appalachian Electric Power Company Case before unlimbering the biggest guns. Thwarted in the Fourth Circuit Court of Appeals, the Corcoran-Cohen group appears convinced that the high court will reverse the lower, and that a sweeping Federal power doctrine will be established.

If such a decision comes forth from the Supreme Court, it would be one ranking in significance as to power law with the Maryland bank case to tax law. Should the decision reverse the lower court, and should it come within the present session of Congress, it might well cause immediate and important legislative repercussions.

The whole broad question of power and navigation development of the St. Lawrence river may be thrown into the present session of Congress if the new treaty now being negotiated with Canada is completed in time. If this issue does come up again this year the best information indicates that the votes do not now exist in the Senate for ratification of the treaty, as they did not in 1934. However, it would be a long and bitter fight.

Meanwhile, no matter how few or many of the previously discussed power questions reach the current session of Congress, legislation hanging over from the previous session promises several bitter struggles.

Foremost among these is the question whether Federal taxpayers all over the country or state and local taxpayers in the Tennessee valley shall assume the burden of replacing taxes lost in those states when the TVA purchased private utility properties in the area and took them off the tax rolls.

Senator George W. Norris will

press for early hearings on his compromise bill to direct TVA to pay Federal money in lieu of taxes to the states. Representative May, anti-TVA chairman of the House Military Affairs Committee, will fight to make the people of the TVA area foot the bill themselves.

Administration forces are expected to throw themselves strongly behind the Norris bill, which reflects the TVA viewpoint and is backed by Governor Prentice Cooper of Tennessee. Conservative Democrats and Republicans are getting together on the other side, but it is too early to determine what the final line-up will be. The whole issue of public power *versus* private enterprise may become involved in the debate.

WITH national elections coming this year, and with war threats in the air which may direct attention to the Tennessee valley and its power as a center for munitions manufacture, the situation is too involved for even the most qualified sort of prophecy.

The question at issue is simply this: Should all the people of the country, after they supply money for Federal projects for the particular benefit of the people of a particular section, then hand over additional money to make up for taxes lost because of these improvements, or should the people who receive the benefits pay this part of the cost?

These are fundamental issues which Congress must decide. The question raised by the May proposal is whether such a tax as he advocates could be imposed on consumers in the Tennessee valley without making it bear equally upon electric consumers all over the country, in view of the constitutional restrictions on Congress that "all duties, imposts, and excises shall be uniform throughout the United States."

Some legal experts hold that if the tax were imposed upon all purchasers of power produced by Federal projects throughout the country it could be brought within the constitutional limits.

One of the objections raised in connection with the Norris bill is that while the "contributions in lieu of taxes" would be substantially increased, officials in some of the counties affected in Tennessee and Georgia contend that if this bill is passed the payments provided would still be inadequate and considerably below the tax revenues lost. They also point out that the Norris bill provides for payments to the state governments, and while it asserts the intention of Congress that each state redistribute the payments among all the taxing units affected, it does not explicitly direct the states to do so.

IT all seems to boil down to this: When comparing the relative advantages of private and public ownership and operation of utilities, it is not enough merely to consider the potential savings to consumers under the latter through cheaper power rates. Government "yardstick" rates must include or allow for lost tax revenues.

There is still before Congress the report of the Federal Communications Commission submitted last June making 9 recommendations for additional Federal regulation of the telephone system. No action was taken at the last session and the best available infor-

mation indicates that the likelihood of these recommendations being written into law at the current session is not very great.

Much more likely to become a matter of discussion and debate, and perhaps action, during the current session is the question of merging the Postal and Western Union telegraph companies into one government-regulated system. This was recommended by the FCC back in 1935. Senator Burton K. Wheeler, chairman of the Interstate Commerce Committee, obtained Senate authorization to make a study of the subject, but the Senate gave him only $5,000 to do it with. So he pressed the FCC into action to do most of the survey work. As this article was written, its report to Senator Wheeler had been sent to the Senate. (See p. 98.)

Whether or not legislative action will be attempted this year depends upon the Senate committee, in which any legislation will be drafted. There is substantial sentiment in both houses of Congress for doing something on this subject, with the odds favoring the merger. Of course this, like all utility legislation, faces the necessity of clearing the hurdle of politics in a Congress which, after its first few weeks, will be thinking of little else.

HANGING over from the last session are numerous bills for new public power projects, amendments to the TVA, amendments to REA, establishing power rates on the basis of the prudent investment theory, directing the Federal Trade Commission to investigate utility propaganda, creating Potomac, Niagara, and White river authorities, and to amend the Constitution to forbid competition with private industry.

All these bills, during the entire eight months of the last session, reposed in unbroken slumber in the committees to which they were automatically consigned. There is no indication as yet that any of them will come out of hibernation at this session.

Two bills are on the way to enactment—Senator McNary's amendment to the Bonneville Project Act which passed both houses in different forms and is now technically in conference between the two; and Senator White's joint resolution for surveys of the Passamaquoddy Bay project, which passed the Senate and is in a preferred position on the House calendar.

But these two are all. Perhaps Wendell L. Willkie in his speech before the annual convention of the National Association of Manufacturers last December was prophetic after all—"if government will leave us alone for a while," he said in effect, "perhaps life will begin for us in '40." Certainly, as far as this session of Congress is concerned, Willkie and his colleagues are on the way to realization of their wish.

¶ "IF employers complain that the government's program is only a burden on industry, let them remember that the program was adopted in response to needs voiced by their own employees, workers who care little about where help comes from so long as it comes."

WILLIAM M. LEISERSON,
Member, National Labor Relations Board.

Wire and Wireless Communication

On the opening day of the congressional session, the FCC released the details of the recent report on merging the telegraph companies, filed by Chairman Fly with the Senate Committee on Interstate and Foreign Commerce. Living up to advance rumors, the report was a rather cautious document. It failed to recommend any specific plan or formula for coördinating the two national telegraph systems. It failed to recommend any specific legislation on the subject. It excluded any discussion of international telegraph service (which will be the subject of the supplemental report); and it passed gingerly but diplomatically over the question of taking care of surplus telegraph employment, over which the labor union representatives have been sending up somewhat premature distress rockets for the last month.

Nevertheless, the FCC report, in presenting basic information and data about conditions in the field of domestic telegraphy, is a most realistic document. In a word, it points to consolidation as "an obvious remedy for many of the existing ills" of the telegraph carriers and strongly urges that Congress "enact legislation to remove the existing (antitrust) prohibition" against such qualifications.

Notwithstanding its somewhat frank concession that "it is possible to superimpose the entire telegraph traffic upon the existing facilities of the telephone carriers," the report shows that the FCC looks upon the telegraph business as a still vital phase of American communications service, which might well be able to stand on its own economic feet if freed from unnecessary and wasteful competition both from within and from without the industry. The commission stated:

> The public's expenditure of $133,000,000 in 1938 for telegraph service is proof of the importance of telegraph service in the social and economic structure of the nation, yet competition within the telegraph industry, competition with other forms of communication, changing economic conditions, and other causes have brought about a situation which jeopardizes the existence of certain of the existing telegraph carriers.
>
> The financial situation of the Postal System is precarious and that of Western Union, although less critical, is definitely unfavorable. These conditions are the result of a long and well-settled trend, and there is no indication of improvement under existing conditions. There is every indication that unsound management policies have contributed to existing unfavorable conditions. Probably the most important factors contributing to present conditions are the development of competing forms of communication, such as long-distance telephony and air mail, and destructive competition within the industry for the remaining diminishing volume of telegraph business.
>
> Strenuous efforts of the competing telegraph carriers to prevent diversion of telegraph business to other forms of communication through reduced rate classifications have proven ineffectual. The available capacity, including substantial duplication of facilities, of the existing telegraph carriers cannot be effectively or profitably utilized with the traffic available under existing circumstances.

Consolidation, the commission believes, "would, if properly safeguarded through effective regulation, maintain for the telegraph-using public the benefits inherent in competition in

the communications field and result in the rehabilitation of an industry which at present offers little security for its employees." It also feels that "communication needs incident to national defense will be more effectively provided for" by such unification. The report said:

> Whatever the causes of existing conditions, the employees cannot be held accountable and they should receive primary consideration in the formulation and adoption of any consolidation plan.
>
> A unified telegraph system may confidently be expected to provide opportunities for more efficient operation with consequent opportunity for extension of service, where necessary, and adjustment of existing rate structure to attract available business.

In its specific recommendations, the report says in part:

> There can be no question of the power of Congress to permit consolidation.
>
> Experience in dealing with the communications industry and with legislation permitting consolidation in other fields indicates the necessity for the enactment of legislation broad in scope which will leave to the discretion of the appropriate administrative authority the fixing of details important to the consummation of any particular plan which may be proposed.
>
> Inclusion of details is inadvisable: First, for the reason that there is no foundation upon which to prescribe details in the absence of a specific proposal; and, second, changes are so rapid that details applicable today may not be applicable at the time the consolidation is effected.
>
> Any legislation should, however, provide limitations in order to carry out specific intent.
>
> It should specifically prohibit the ownership or voting of capital stock by an alien in the consolidated company and should forbid aliens to act as officers or directors.
>
> It should specifically require that the unified system shall extend its services wherever found necessary in the public interest by this commission, regardless of whether such extension is within the "original undertaking" of the carrier.
>
> The interests of labor should be specifically protected in the legislation itself, even though under recent decisions of the United States Supreme Court, the authority of the commission to do this may not be implied.
>
> Capitalization of the new corporation or revision of the capitalization of any existing corporation which may evolve from the consolidation plan should be submitted to the commission for approval.
>
> While it has been suggested that the scope of consolidation should be specifically limited in the enabling legislation, it is our recommendation that such matters be left to the sound discretion of the commission upon the submission of any proposed plan of consolidation.

These recommendations are based upon the commission's detailed findings in four phases of the existing situation: (1) Financial and Economic Conditions in the Domestic Telegraph Industry; (2) Causes Underlying Present Conditions; (3) Justification for Consolidation; and (4) Important Elements to Be Considered if Consolidation Is Permitted.

* * * *

ON December 21st the FCC took the first step in the direction of putting television on a commercial basis. Heretofore it has been conducted entirely on an experimental basis as far as the FCC is concerned, which means that television licensees have been unable to make any charge to cover the cost of television programs.

What the commission did was to adopt, with minor modifications, the rules recommended in the report of its own television committee, as made public last November. There were to be public hearings on the proposed rule on January 15th, but the final action was generally expected to follow the lines laid down in the committee report.

According to the new rules there will hereafter be two types of experimental television stations; namely, "experimental research stations" and "experimental program stations," which shall be known as Class I and Class II stations, respectively.

A Class I television license will be issued only after the applicant has made a satisfactory showing that it is ready, willing, and able to carry on serious research and experimentation in the technical phases of television broadcasting, which indicates reasonable promise of substantial contribution to the development of the television art. Class I licenses, however, will be given to applicants not requiring a service direct to the public.

Class II licenses are to be awarded to

applicants who make a showing of technical qualifications similar to Class I, but are ready, willing, and able to conduct television broadcasts as a direct service to the public with a minimum scheduled program of five hours a week, subject, of course, to technical standards and restrictions imposed by the commission.

With respect to levying charges to cover the cost of program service, however, Class I stations are forbidden to make either a direct or indirect charge for either production or transmission of television programs, whereas Class II stations are regulated as follows:

> No charges either direct or indirect shall be made for the transmission of either aural or visual programs by Class II television stations; however, Class II television broadcast stations may make charges to cover cost of program production, including advertising material, which programs may be transmitted as an experimental program service but without charge for such transmission.

Class II stations are also given considerable latitude with respect to operating requirements, as indicated in the following passage from the commission's new rule:

> Class II stations shall operate to render scheduled television broadcast service for public consumption, and in connection therewith may carry out experiments with respect to program technique, determine power and antenna requirements for satisfactory broadcast service, and perform all research and experimentation necessary for the advancement of television broadcasting as a service to the public.
>
> Class II stations shall operate in accordance with the television transmission standards (scanning, synchronization, etc.) which the commission recognizes for this class of station. The commission will recognize a modification in these standards upon a showing by the applicant proposing the changes that it will be in the public interest to require all Class II stations to adopt the proposed changes.

The FCC also laid down some population classifications that would govern the awarding of television broadcast licenses in the future. The assignment of frequency channels for Class II television operation will be limited to three channels. Cities whose metropolitan districts have between one-half million and one million population will be limited to two channels, while those whose metropolitan districts have less than one-half million population will have only one channel.

* * * *

THE Minnesota Railroad and Warehouse Commission on December 27th adjourned indefinitely its investigation into telephone rates in the St. Paul metropolitan area, but reserved the right to reopen hearings if and when it sees fit.

Charles Munn, commission chairman, made it clear the commission would not decide on possible reopening of the hearing until the Minnesota Supreme Court has passed on a Ramsey District Court decision holding invalid the commission's so-called "compromise" rate order of May 2nd in so far as it affects St. Paul telephone rates.

The effect of the commission's recent order was to leave the entire question of St. Paul area rates in the hands of the court, at least for the time being.

If Judge Gustavus Loevinger's decision invalidating the May 2nd order is upheld by the state supreme court, then St. Paul rates will be reduced about $250,000 to $300,000 a year and subscribers will be entitled to refunds from June 1, 1939, when the May 2nd order was effective, until such time as the lower rates are ordered effective by the courts. The lower rates are those ordered by the commission in 1936.

* * * *

AS previously forecast in these pages, the Wisconsin commission has filed a petition for a writ of certiorari for the U. S. Supreme Court to review the decision of the Wisconsin Supreme Court invalidating the commission's 1936 horizontal rate reduction order of 8 per cent against the Wisconsin Telephone Company. While the scope of the appeal is rather limited, it may provide an interesting collateral test of the recent Illinois Supreme Court ruling that a return of little better than 5 per cent is "nonconfiscatory." In this case the Wisconsin Supreme Court held that a return of 5½ per cent was confiscatory.

Financial News and Comment

By OWEN ELY

The Outlook for 1940

YEAR-END prophecies, while maintaining a note of subdued optimism, are almost unanimous in predicting a downswing in business for the first quarter of 1940. However, maintenance of steel operations at a relatively high level will, it is now thought, hold the Federal Reserve business index at about the 120 level for the month of January. Unless there is a very sharp recession in February-March, it seems likely that the index should average around 115 for the first quarter, which compares with about 99 for the first quarter of 1939.

Fears of excess inventories have now abated somewhat due to the December recovery in commodity prices. Commodity futures, as measured by the Dow-Jones index, were about 8 per cent above the September level at mid-December, although slightly lower at the year-end; spot prices did not quite regain the September peak. Evidences of inflationary trends, both at home and abroad, continue to multiply, but it remains as difficult as ever to predict the timing and tempo of inflation. And with a presidential election and the European war as complications, many observers consider it hopeless to gauge the trend beyond the first half of the year.

So far as the theory of the business cycle is concerned, we have already enjoyed an advance from 76 in May, 1938, to 127 (estimated) in December, 1939, so that both in extent and duration this advance seems to satisfy the requirements for a "normal" recovery. On this basis 1940 might well be viewed as a probable year of recession. On the other hand, if the war continues and/or a conservative President is elected, we might well remain on a "plateau" of prosperity, with relatively minor swings in the business average, for several years. This occurred in 1880-82, following the prolonged depression of 1873-78 and the sharp recovery of 1879; in 1905-07, following the "rich man's panic" of 1903-04; in 1916-18 after the recovery of 1915; and again in the "Coolidge prosperity" years following the 1924 recovery. There seems to be considerable force to the argument that subnormal conditions during the decade of the thirties have accumulated such widespread obsolescence and dearth of construction that, given half a chance, we should have more than a temporary taste of prosperity at this time.

Moreover, there seems every reason to believe (unless the internal morale in Germany is considerably worse than indicated) that the war will continue at least into 1941. This being the case, it is logical to assume that, with the beginning of major operations in the spring, war orders should increase in volume; for this is a war of mechanics rather than of man-power, which means a bigger demand for supplies than in the last war, once operations begin in earnest. Meanwhile the "side shows" in Finland and the Orient remain a drain on the world's supply of munitions materials.

To summarize, it seems likely that business will remain on a fairly even keel in 1940, averaging around 110-20 for the FRB index (1937 averaged 110; 1938, 86; and 1939, about 105).

REGARDING the outlook for the utilities, costs have thus far advanced only

moderately, while output continues to mount to new high levels, the latest weekly figures showing a gain over last year of 11.8 per cent. Despite the drouth handicap, 29 electric and gas systems showed average gains in per-share earnings (see page 40, January 4th issue) of 26 per cent over the corresponding previous 12-month periods. Such a rapid gain in earnings would normally pave the way for a program of expansion, financed in part through the sale of junior bonds or stock issues. But the ease with which high-grade, low-coupon bond issues can be floated, plus the handicap on junior financing imposed by § 11 and the unpredictable attitude of the SEC, may retard any trend toward stock financing.

While the administration's attitude toward the utilities appears somewhat less antagonistic than in past years, and Congress is less inclined to allot public funds for competitive power enterprises, the industry is still subjected to "pin-pricks" such as the SEC decision on Consumers Power financing, the TNEC investigation of the investment bankers, and the Supreme Court's labor decision apparently favoring the CIO in Michigan* despite its records of resorting to power shutdowns to enforce its demands.

Four outstanding problems of 1940 faced by the utilities are (1) completion of the President's national defense program, including the proposed "grid" to supplement existing interconnection in the East; (2) a "show-down" on the implications of § 11, with a possible court test if SEC interpretation seems too far-reaching; (3) the problem of clearing up the large arrears of back dividends on certain holding company preferred stocks through recapitalization or otherwise; and (4) completion of the general refunding program of 1938-39. All are interrelated—involving finance plans and changes in capital structure

Utility stocks in 1939 gained only about 10 per cent in price, despite an average increase in earnings of about 26 per cent in the twelve months ended September 30th. However, this showing was better than that of industrials and rails, which at the year-end were slightly below final 1938 levels. Had the administration followed up last summer's TVA "truce" by further evidence of coöperation, in our opinion utility stocks might have regained the normal price levels to which their yields and earnings ratios entitle them, thereby facilitating solution of the industry's financial problems. During 1940 the attitude of administration agencies will doubtless continue, as in the past, a potent but unpredictable market factor.

The Consumers Power Decision

HAVING cleared up the relatively small Pennsylvania Water & Power and Southwestern Power & Light issues in the week ended December 22nd, investment bankers anxiously awaited the SEC decision in the Consumers Power Case, but this was not forthcoming until the 28th. After some weeks' delay the commission finally ruled that the company could market only $18,594,000 of its proposed $28,594,000 issue of first mortgage bonds. Permission was granted to sell 125,000 shares of common stock at $28.25 a share to the parent company, Commonwealth & Southern. The $10,000,000 reduction in the size of the bond issue was due to the commission's theory that "new money" capital should be raised through the issue of common stock.

The SEC avoided any definite ruling on the issue of competitive bidding, members being divided on this point. Commissioners Eicher and Henderson felt that competitive bidding should be required because there was no "shopping around" for underwriters, and because the managerial fee of three-eighths of a point was considered excessive. But Chairman Frank held that in view of Rule U-12F-2 and the language of the

* In a decision announced January 2nd, the court sustained an NLRB order placing the name of only one labor organization (a CIO affiliate) on a ballot for a run-off election to determine the collective bargaining representation for employees of Consumers Power Company at Jackson, Mich.

statute, competitive bidding requirements could not be required at this time.

The last utility offering of the year was the $2,250,000 Central States Electric first 4s of 1964, the Consumers Power issue going over to January 3rd.

1940 Refunding Operations

WHILE the utility industry has accomplished the major part of its refunding program, there are still a large number of issues with coupon rates of 4 to 7 per cent which are selling close to, or above, their present call prices. Including electric, gas, and water issues (but not telephone), the approximate number of bond issues and the outstanding dollar amounts, classified by coupon rates, are as follows:

Coupon Rates	*Number of Issues*	*Millions of Dollars*
7%	1	1
6½	4	11
6	34	197
5½	23	149
5	119	1,037
4½	36	450
4¼	3	15
4	37	631
Total	257	2,491

There are, of course, a number of high-grade bond issues with coupon rates of 3¼-¾ selling at or above the call prices, but it seems doubtful whether bond prices will advance much above the current level in 1940, and unless this occurs it would hardly seem possible to attempt refunding operations for these issues, unless done on a short-term money basis for special reasons.

Following is a list of some of the larger issues (over $25,000,000) which appear eligible for 1940 refunding. Of course there may be some question as to whether many 4 per cent issues can be profitably refunded, this depending upon the necessary premium for redemption, the coupon rate, and price of the new issue, etc.

6%

$38,400,000 Southeast. P. & L. deb. 6s of 2025
33,300,000 Ill. P. & L. ref. 6s of 1953

5½%

33,200,000 Phila. Elec. Power Co. first 5½s of 1972

5%

30,000,000 Amer. Gas & Elec. deb. 5s of 2028
28,400,000 Tex. P. & L. Co. ref. 5s of 1956
50,000,000 Col. Gas & Elec. deb. 5s of 1952
35,000,000 Ark. P. & L. ref. 5s of 1956
50,000,000 Col. Gas & Elec. deb. 5s of 1961
52,000,000 Fla. P. & L. Co. first 5s of 1954
60,000,000 Phila. Co. 5s of 1967
38,500,000 Carolina P. & L. ref. 5s of 1956
109,700,000 Ga. Power Co. ref. 5s of 1967
33,700,000 Tex. Elec. Serv. first 5s of 1960

4½%

25,700,000 Penn Cen. L. & P. Co. first 4½s of 1977
32,000,000 Jersey Cen. P. & L. first 4½s of 1961
28,600,000 Penn. P. & L. deb. 4½s of 1974
47,800,000 Ala. Power ref. 4½s of 1967

4%

92,300,000 Pac. Gas & Elec. ref. 4s of 1964
49,000,000 Detroit Ed. ref. 4s of 1965
26,000,000 Columbus Ry., P. & L. first 4s of 1965
57,000,000 Appalach. Elec. Power first 4s of 1963
28,900,000 Ohio Public Serv. first 4s of 1962
44,000,000 Ohio Edison first 4s of 1965
25,000,000 North Amer. deb. 4s of 1959
32,900,000 Wisconsin P. & L. first 4s of 1966

REFUNDING plans on some of these issues, such as Jersey Central Power & Light, and American Gas and Electric bonds, are already well advanced, while others are the subject of negotiations between the companies and their bankers.

A considerable amount of preferred stock financing may also be "in the cards." American Gas and Electric is planning to retire its $35,600,000 $6 preferred. Other issues selling around or above their call prices are the following:

$218,900,000 Consol. Edison $5 pfd.
22,300,000 Consol. Gas (Balt.) $4.50 pfd.
60,600,000 North Amer. $3 pfd.
20,000,000 Pacific Light. $5 pfd.
30,100,000 Public Serv. Elec. & Gas $5 pfd.
47,700,000 South. Calif. Edison $1.50 pfd.
35,000,000 South. Calif. Edison $1.375 pfd.
76,500,000 United Gas Improve. $5 pfd.

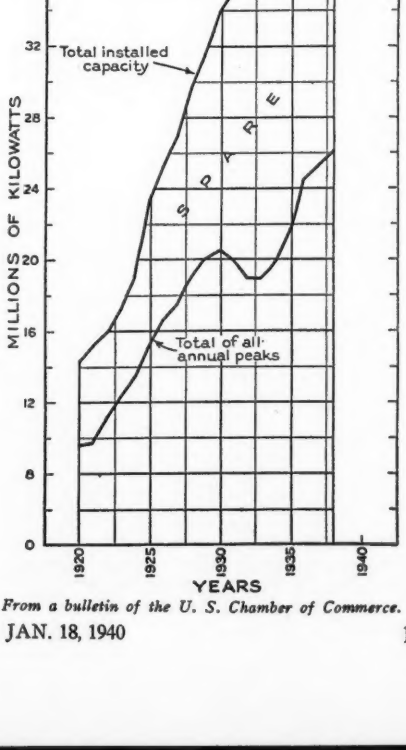
Important noncallable issues, refunding of which might prove difficult, are the following:

$13,500,000 Amer. Light & Trac. $1.50 pfd.
28,700,000 Pac. Gas & Elec. $1.375 pfd.
102,100,000 Pac. Gas & Elec. $1.50 pfd.

51,800,000 Public Serv. of N. J. $5 pfd.
59,900,000 Public Serv. of N. J. $6 pfd.
28,900,000 Public Serv. of N. J. $7 pfd.
21,500,000 Public Serv. of N. J. $8 pfd.

B.-M. T. Unification

DUE to the much smaller percentage of deposits required and the coöperation of the Federal court which acts as receiver, New York city's Interborough-Manhattan unification plan has proceeded much faster than the separate plan for acquiring the B.-M. T. properties. John W. Cornwell, Jr., statistical expert on New York city tractions, believes however that the city enjoys wide latitude in changing its plan and method of effecting B.-M. T. unification. He thinks that the city and the company, by mutual agreement, could reduce the required percentage of assent (now fixed at 90 per cent for the bonds and preferred stock), or adopt other methods for handling dissenting minority groups.



From a bulletin of the U. S. Chamber of Commerce.

Regarding fears that the New York city 3 per cent bonds, to be issued in exchange for traction securities, might again sell substantially below par under war conditions (they sold down to 91 in September), Mr. Cornwell holds that two factors may help sustain the value of city bonds around par: (1) The possibility that Federal legislation may remove tax exemptions on municipal securities and thus limit the supply of tax-free bonds, and (2) the improvement in the city's credit standing which should result from obtaining final control over all rapid transit facilities, in which it already has an investment of over one billion dollars or about 40 per cent of its total debt.

William Carnegie Ewen, with whom Mr. Cornwell was formerly associated, is opposing the B.-M. T. plan with respect to the amount allotted to holders of Brooklyn & Queens Transit (trolley-bus subsidiary) bonds. He holds that about $2,500,000 or $3,000,000 additional money should be assigned to the bonds. At present $18,815,600 is allocated to bondholders and $8,184,400 to stockholders.

New York city Comptroller Joseph D. McGoldrick recently predicted that unification plans for both Interborough and B.-M. T. systems should be completed by July 1st. He indicated that the city has built up a cash reserve which should make it unnecessary to do any long-term financing in the first half of 1940, and permitting substitution of a short-term issue if mid-year conditions prove unfavorable. He stated that the B.-M. T. group now has the assent of about 82 per cent of the principal bond issue, and the time limit for deposit has been extended to January 31st. Deposits on senior I. R. T. securities range from 86 to 92 per cent.

Associated Gas Plans Economies

ROGER J. Whiteford, new chief executive of the Associated Gas system

and former general counsel of the Federal Housing Administration, plans to give immediate attention to furthering the company's plans for simplification and integration, as well as readjustment of the voting power of the security holders.

The new president stated that he would initiate promptly readjustments which would effect system savings of over $500,000 a year, with further substantial economies also in view.

Associated Gas is having difficulties over SEC rulings regarding holding company dividend payments. Associated Electric Company, one of the major subholding companies, has now been ordered to justify the proposed payment of dividends on its common stock.

The RFC has not yet taken action on Associated's application to borrow $26,500,000 to provide for a system bond maturity in March, tax claims, and new construction.

The Associated system is planning to sell $7,000,000 worth of southern properties to Rupe & Son, investment banking house at Dallas, Texas. (See p. 115.)

Corporate News

NIAGARA Hudson, to conserve cash for a large program of capital expenditures, paid no year-end dividend on its common stock. Due to increased expenses occasioned by the drouth, net earnings for 1939 are expected to be around the same level as in 1938, when 50 cents per share was earned.

Year-end extra dividends were declared by United Electric Illuminating Company of New Haven, Cleveland Electric Illuminating, Federal Light & Traction, General Water, Gas & Electric, Sierra Pacific Power Company, and American Cities Power & Light (Class A stock, optional dividend series of 1936).

Standard Gas and Electric headquarters will be moved back to Chicago from New York, if the present tax situation is settled satisfactorily.

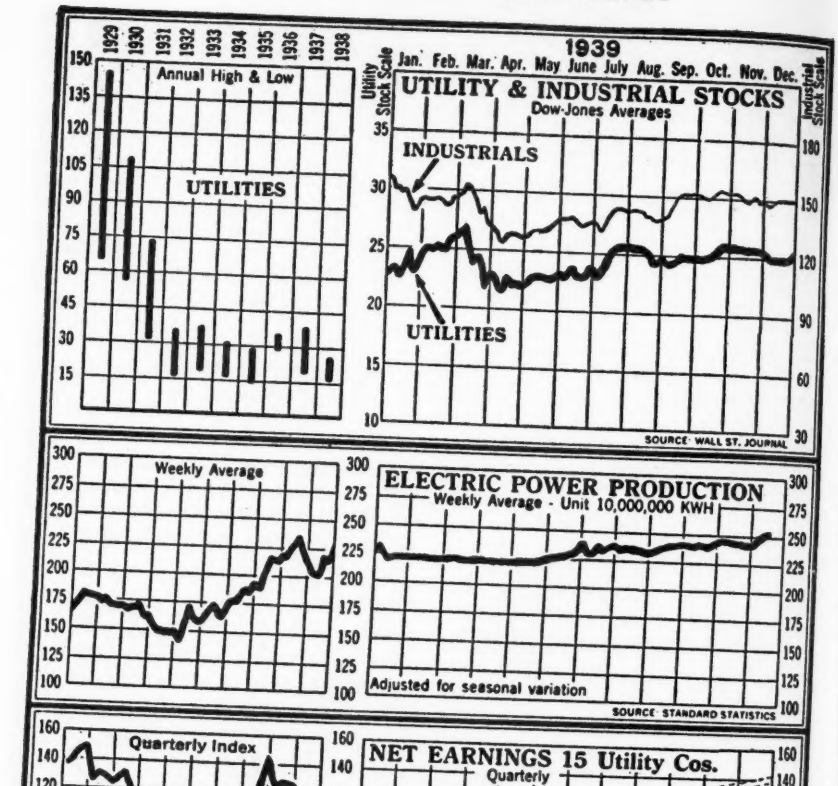
SEC rule U-12C-3 is causing some difficulties due to its retroactive character. It prohibits (unless approval is granted) payments on any form of indebtedness which represents past payment of a dividend declared out of capital or unearned surplus. Four Columbia Gas subsidiaries have asked for SEC rulings regarding payment of interest on certain notes held by their parent company.

American & Foreign Power has been granted partial exemption from the Holding Company Act. While foreign operations were granted exemption, the SEC held that the holding company, in view of its preferred dividend arrears and its connection with Electric Bond and Share, would be required to register under § 5 (a) although exempt under §§ 5 (b) and 5 (c).

Attorneys for the Postal Telegraph Bondholders' Committee have proposed the setting up of special funds for pensions and litigation expense, in return for withdrawal of a labor union's appeal to the Supreme Court against the reorganization plan. The new arrangement is expected to speed the plan.

Public Service Corporation of New Jersey has announced a construction budget for next year amounting to approximately $17,500,000. Duquesne Light Company will expend $16,000,000 for the same purpose.

The SEC has refused to permit General Public Utilities, Inc., to issue common stock in connection with the optional dividend payable in cash or stock. Similar previous stock issues have been permitted only because of problems raised by the undistributed profits tax, now no longer in effect. The SEC pointed out that the Holding Company Act requires that issues of common stock be permitted only for necessary and urgent corporate purposes.


1929 1930 1931 1932 1933 1934 1935 1936 1937 1938
Annual High & Low
UTILITIES
1939
Jan. Feb. Mar. Apr. May June July Aug. Sep. Oct. Nov. Dec.
Utility Stock Scale
Industrial Stock Scale
UTILITY & INDUSTRIAL STOCKS
Dow-Jones Averages
INDUSTRIALS
UTILITIES
SOURCE: WALL ST. JOURNAL
Weekly Average
ELECTRIC POWER PRODUCTION
Weekly Average - Unit 10,000,000 KWH
Adjusted for seasonal variation
SOURCE: STANDARD STATISTICS
Quarterly Index
NET EARNINGS 15 Utility Cos.
Quarterly
Adjusted for seasonal variation
* Preliminary
SOURCE: STANDARD STATISTICS
Monthly Average
To 249
UTILITY FINANCING
Millions of Dollars
REFUNDING
NEW CAPITAL
Jan. Feb. Mar. Apr. May June July Aug. Sep. Oct. Nov. Dec.
1939
SOURCE: FINANCIAL CHRONICLE

What Others Think

The Gas and Electric Industries Look Back on 1939

STATEMENTS released over the recent holiday by leading officials of the gas and electric utility industries, respectively, show considerable gains made in both fields during the year 1939. The record of progress for the gas industry was summarized by Walter C. Beckjord, president of the American Gas Association, while the electric industry's performance was outlined by C. W. Kellogg, president of the Edison Electric Institute.

Manufactured and natural gas companies, according to the Beckjord statement, supplying towns and cities with a population of almost 82,000,000, served a total of 17,548,000 customers, representing the largest number of consumers ever connected to the mains of the industry and an increase of 376,000 over the year 1938. Of these, 10,100,100 were served by the manufactured gas industry and the remaining 7,447,900 were served by the natural gas industry. Revenues of the entire industry, both manufactured and natural, aggregated $817,137,000, a gain of 5.2 per cent over the preceding year of 1938. The natural gas companies grossed $449,073,000, a gain of 7.8 per cent for the year, while revenues of the manufactured gas companies were $368,064,000, as compared with $360,494,000 in 1938, an increase of 2.1 per cent.

SALES of manufactured gas for domestic uses, such as cooking, refrigeration, house heating, water heating, etc., amounted to 249,367,000,000 cubic feet, an increase of 1.8 per cent for the year. House-heating sales registered a gain of 15.9 per cent. The sales of natural gas for domestic uses registered a pronounced upturn, rising from 352,964,000,000 cubic feet in 1938 to 376,613,000,000 cubic feet in 1939, a gain of 6.7 per cent. Sales of natural gas for industrial purposes rose from 589,398,000,000 cubic feet in 1938 to 655,389,000,000 cubic feet in 1939, an increase of 11.2 per cent. Sales of manufactured gas for industrial purposes showed an even greater upturn, rising from 47,398,000,000 cubic feet in 1938 to 55,645,000,000 cubic feet in 1939, an increase of 17.4 per cent.

Preliminary estimates indicate that the total production of natural gas in 1939, including amounts used in the manufacture of carbon black and for field purposes, reached a total of 2,200,000,000,000 cubic feet. Approximately 192,000,000,000 cubic feet of natural gas were used as fuel for generating electric power in 1939. This was an increase of nearly 13 per cent over the previous year.

Gas companies continued to inaugurate more favorable rates for house heating through central plant burners and equipment. It is estimated that the total number of gas central house-heating installations connected to the lines of all United States gas companies in 1939 amounted to 900,000. In addition there were approximately 1,600,000 dwellings heated by unit heaters, space heaters, floor furnaces, etc., giving a total of more than 2,500,000 homes in the United States that are heated by gas.

The electric light and power industry, said Mr. Kellogg, shared fully in the revival of business activity in this country which took place during 1939. Power output was up 12 per cent over 1938, 7 per cent above the previously high year of 1937, and exceeded that of the boom year of 1929 by 38 per cent.

OUTPUT of electricity in 1939 amounted to 128,300,000,000 kilowatt hours compared with 114,650,000,-

000 kilowatt hours in 1938, with 119,810,000,000 kilowatt hours in 1937, and 92,750,000,000 kilowatt hours in 1929.

An outstanding feature of the year's operation was the substantial increase in output during the latter half of the year, resulting from the industrial expansion which accompanied the outbreak of war in Europe. The growth of total output of electricity from August to December showed an increase considerably above the usual seasonal increase for this period, but the relation of the December, 1939, output to the August, 1937, output corresponds closely to the long-term trend of output growth of the industry; and new capacity had been added during the 2-year interval amply to provide for this increase.

Another feature of the year's operation was the serious shrinkage in water-power production during the autumn months because of the progressive failure of water supply. Rainfall was deficient from the very start of the year; by September the drouth became acute and the year closed with many reservoirs empty or nearly so and the streams in some areas reduced to extreme low stage. Generation of electricity by water power during the last four months of the year ran 12 to 15 per cent below that of the previous year, and for the year as a whole showed a decline of 4 per cent.

On the other hand, production of electricity by steam rose to new high records. The total for the year is estimated to have been 83,600,000,000 kilowatt hours, an increase of 14,850,000,000 kilowatt hours, or nearly 22 per cent over the year before. This steam-power production almost equals the entire output of electricity from all sources during the boom year of 1929.

INDUSTRIAL power sales were up nearly 20 per cent above 1938 and about one per cent above such sales in 1937. They were nearly 25 per cent above 1929. The advance in industrial sales from 1938 to 1939 closely reflected the advance in industrial activity from 86, as measured by the Federal Reserve Board index, in 1938 to 105 in 1939.

Commercial sales of small light and power also indicated an expansion of retail trade and showed a gain of 9 per cent over the year before.

Domestic service showed the usual annual growth. A new high record was set at 21,100,000,000 kilowatt hours, a gain of 8 per cent over 1938. The average use per customer increased from 853 kilowatt hours in 1938 to 900 in 1939. It was 500 in 1929. During the year considerable improvement in the sales volume of household electrical appliances took place, notably in the sale of refrigerators, ranges, and water heaters.

The grand total of electric customers on December 31st reached 28,750,000, an increase of 900,000 over the number at the close of the previous year. Three hundred and eighty thousand of these new customers were farms, two-thirds of which were on REA lines, bringing the total number of electrified farms to 1,786,000, or approximately 28 per cent of all farms having occupied dwellings. About 1,400,000 of these farms were served by the industry.

New construction in 1939 added 1,310,000 kilowatts of generating capacity, of which amount 1,090,000 kilowatts were installed by the industry and 220,000 by the Federal government. The total generating capacity, including government power plants, amounted to 38,600,000 kilowatts at the end of the year. In addition, about 670,000 kilowatts of generating capacity in industrial establishments are interconnected with and contribute to the public supply of electricity.

New construction programs as now planned for 1940 and 1941 will add 4,315,000 kilowatts of additional capacity, of which amount 2,830,000 kilowatts of steam capacity and 70,000 kilowatts of additional hydroelectric capacity will be installed by the industry, and 1,415,000 kilowatts of hydroelectric capacity will be added by government projects yet to be completed.

Meeting the Submetering Problem

THE problem of eliminating existing submetering situations or of preventing them from arising is facing many operating utilities. It has been successfully met by some who have resolutely set themselves to accomplishing the desired result. Guiding principles are revealed in leading cases which have been decided in the District of Columbia, the state of New Jersey, and in the state of Florida, respectively. All resulted in clear-cut decisions. The present status of the situation in the metropolitan area of New York city is also worthy of note.

Submetering, when engaged in by large owners of real estate, usually represents considerable additional income to such owners. It must be recognized that any steps taken by a utility which affect a source of revenue to certain of its customers who usually have considerable influence in the community, may arouse antagonism. However, where these cases have come before regulatory commissions or have been carried beyond them to the courts, the operating companies have been sustained in their insistence upon the right to deal directly with ultimate consumers, and therefore in their right to refuse service for resale within their territory.

Three similar cases have been decided in the District of Columbia. On December 31, 1928, the public utilities commission of the District of Columbia approved a schedule of rates of the Potomac Electric Power Company which included the following rule:

> The consumer agrees not to use the current for any purpose or for any additional equipment other than that provided for in this contract without first having notified the company in writing and having received the company's consent thereto. It is expressly understood and agreed that electric service furnished to the consumer shall be for his (her or their) own use and may not be remetered (or submetered) by the consumer for the purpose of selling electric service to another or others.

On December 19, 1931, the District of Columbia Supreme Court handed down its decision in Karrick *v.* Potomac Electric Power Co. PUR1932C, 40. The customer had refused to sign a new contract including the provision against resale quoted above, and the company had threatened discontinuance of service. The court held (1) that the District of Columbia commission, under its statutory authority to fix rates, had the power to approve a utility regulation which included a prohibition against the resale of current by customers without specific consent of the utility company; (2) that such a prohibition against the resale of utility service was a reasonable and valid exercise of regulatory power to the end that the utility rates and conditions of service should remain subject to commission control for the public interest; (3) that the granting of permission to resell utility service under special circumstances, such as where compensation for an indefinite amount of usage is absorbed in apartment or office rentals, does not constitute illegal discrimination; (4) that a utility is entitled to discontinue service to a customer who refuses to abide by such regulations and that the court had no equitable jurisdiction to interfere with such service discontinuance.

IN the case of Crandall Realty Co. *v.* Potomac Electric Power Co., the supreme court of the District of Columbia holding equity court came to a decision agreeing with the conclusions stated above. This decree was handed down December 23, 1931.

In the case of Lewis *v.* Potomac Electric Power Co. PUR1933C, 114, the District of Columbia Court of Appeals, on March 27, 1933, said in part:

> In this case the commission approved the rule, and this, we think, forecloses the question sought to be raised in this proceeding . . . The rule approved forbids what appellant seeks to do, and the reasons for it are obvious; it secures equality of rates and of service and prevents rebates and discrimination, and this is enough to justify us in saying there is nothing either unreason-

"SAYS YOU CAN FIND WHAT YOU WANT IN THE YELLOW SECTION OF THE PHONE BOOK."

able or arbitrary about it. In this aspect the result of appellant's contention is to demand that the power company shall deliver to him electricity to be used as he may desire without regard to a regulation of the company which provides it shall not be remetered and resold . . . the rule is a reasonable protection to the revenues of the company and this it has a right to. It is also a prevention of discrimination which it is its duty to avoid.

The New Jersey Board of Public Utility Commissioners, on December 11, 1928, handed down a decision in the case of Sixty-seven South Munn *v.* Public Service Electric & Gas Co. PUR1929A, 329. The complainant, the owner of a recently built apartment house in the city of East Orange, applied to the company to install a master meter, the owner proposing to purchase and resell electric current to tenants in the building. The company refused to install such a meter and a complaint was filed with the commission against this refusal. The commission pointed out, among other things, that if energy were sold to a landlord for resale, the landlord in effect would be performing some of the usual functions of a public utility company but in the performance of these functions would not be under the supervision of the commission. The board stated:

> Any plan or method which takes from the state the power to fully regulate and control rates and service between the public and the company cannot be regarded with favor by this board. Such a plan is opposed to the policy of regulation adopted by the state and is not in harmony with the best interests of the public.

THE company expressed itself as willing to install and maintain a meter to measure such electricity as might be required by the owner for lighting halls and the operation of elevators; also install meters in the apartments of those tenants who desired to use electric current.

The commission found that the company's refusal to install a master meter was not a denial of adequate and proper service or an unjust or arbitrary discrimination against the complainant. The complaint was therefore dismissed.

This case was carried to the supreme court of New Jersey, which, on November 15, 1929, confirmed the decision of the commission (106 NJL 45, PUR 1929E, 616). The following excerpt from the court's opinion is of particular interest:

> A tolerance by the board of discriminatory and unreasonable practices on the part of the utility or the promulgation by the board of orders that in themselves are discriminatory or unreasonable would be an abuse of power that this court could and would correct, but if the disputed practice is applied generally, that is to say if the utility uniformly, and as a matter of policy, declines to sell at wholesale to a retailer for redistribution and resale by the latter to the consumer at retail rates, we find nothing discriminatory in the practice. No prospective consumer is denied electric current; the question involves merely the manner and personnel of delivery. Neither does it seem to be an unreasonable or unlawful exercise of power on the part of the commission to refuse to direct the utility to sell under the circumstances. This view has in mind not merely the business of the utility but also the public welfare . . . If the utility should be compelled to submit to this practice it is conceivable that the meter company, or some like concern, could become a very real competitor. The meter company could take each square block as a unit of operation and by keeping its paraphernalia off the public streets refrain from becoming a utility, keep out of the control of the board of public utility commissioners, take its power through a master meter somewhere in the square and compete with the utility for sale and delivery to the various users within the block . . . The board of public utility commissioners determined that the practice in question is not in the public interest. We consider that the board acted quite within its lawful discretion in so finding and in refusing to issue a compelling order against the utility.

THE Florida Power & Light Company was made respondent in a mandamus proceeding brought by owners of certain tenant occupancy buildings to compel it to remove its individual electric and gas meters and to install in place of such individual meters so removed master meters to register the aggregate quantity of electricity or gas supplied to all of the tenants in the buildings owned by realtors. A peremptory writ of mandamus was awarded as prayed and the company took writ of error to the supreme court of Florida (107 Fla. 317, PUR1933E, 157). That court filed its opinion on November 25, 1932, and held (1) that a writ of mandamus cannot be maintained in the absence of a showing that reasonable rules and regulations of a utility company have been or will be complied with; (2) that a regulation of the Florida Power Company forbidding the resale of gas and electricity purchased from that company is a reasonable exercise of powers conferred upon the utility company by ordinances of the city of Miami; (3) that the public interest in the regulation of utility rates or conditions of service extends beyond the point of delivery to the initial customer of a utility and that the regulatory power to fix rates accordingly includes the right to require that a utility should not be compelled to deliver its service through the medium of a third party, over which it has no control.

That a rule against submetering for resale must be impartially applied was emphasized in the decision in the case of Academy Housing Corp. *v.* Bronx Gas & E. Co. handed down December 10, 1935, by the public service commission of New York (11 PUR(NS) 486). The utility's prohibition against resale is covered in "Standard Clause (r)":

> Resale and submetering: The company's service and supply of electric energy for the use of owners, tenants, or occupants of any building will not be furnished otherwise than directly to them as customers of the company through the company's individual meters upon the individual application of such owners, tenants, or occupants to the company upon the form of application prescribed in this rate schedule; and electric

The Oregonian

OLD MAN RIVER AT WORK

energy will not be supplied through a master meter under any classification of this rate schedule or for submetering and/or resale by or to any owner, tenant, or occupant of any building; except where the customer operates a bungalow colony or an amusement park on private property, and in such operations has constructed and maintains distribution lines through private streets or ways upon such property to the various occupants thereof . . .

The commission held that the exception of bungalow colonies and amusement parks from the application of this rule was wholly arbitrary and could not be justified, and ruled that if a company allows bungalow colonies and amusement parks to submeter and resell current it must also allow owners of apartment dwellings and other private properties to submeter and resell.

THE Consolidated Edison Company of New York has met the problem

by leaving in effect an old schedule under the terms of which submetering was and is permitted, and has promulgated a new and lower schedule for the same class of service under the terms of which submetering is prohibited. An analysis of some specific cases shows that a building owner saves money by taking service under the newer schedule and having his tenants contract directly with the utility rather than by taking service under the older schedule which permits submetering.

That the public, as well as the utilities, are injured where submetering is practiced is recognized by the public service commission, state of New York. In its annual report for the year 1938, under the heading "Legislation Recommended," this commission said:

> The commission has repeatedly asked the legislature to place submetering companies under its jurisdiction or under regulation and control of some public body. In prior reports, we have called attention to the fact that no authority, state or municipal, has the power to regulate or supervise the practices and charges that are imposed by submetering companies. Tenants have been compelled to pay what these companies charge, or do without service. They cannot obtain service directly from the utility because the landlord controls the property between their apartments or premises and the distributing system of the utility. Submetering companies require deposits before they will supply service, and there is no one to regulate the amount of such deposit, require submetering companies to pay interest thereon, and to refund the deposit when the tenant moves to other quarters.
>
> The commission receives hundreds of complaints annually against the practices of these companies. In view of the failure of the legislature to place them under any regulation and control, the commission has been compelled to advise complainants that it has no jurisdiction over the companies and that it cannot entertain or attempt to remedy the many complaints regarding rates, conditions of service, repayment of deposits, interest thereon, etc. Complainants cannot understand why other companies rendering gas and electric service are subject to regulation, and submetering companies are allowed to do as they please.

The foregoing indicates that a utility is justified in refusing to sell service through a master meter when such service is to be remetered for resale by the purchaser, and that if a well-drafted rule setting forth such a policy is impartially applied, the utility may expect the support of the commissions and courts.

—ROYAL M. BARTON.

FPC Summarizes Average Electric Bills for 1939

THE Federal Power Commission late last month released a 73-page report on average electric bills for all classes of service throughout the United States. The report is a summary of data recently published by the FPC and a series of state reports which show typical net monthly bills as of January 1, 1939, for residential, commercial light, commercial power, and industrial electric services. The report is illustrated with 33 charts and maps. The publication provides a basis for measuring the differences in average electric bills as between states, geographical divisions, community size groups, and publicly and privately owned utilities, as well as for determining the general trend of residential electric rates from 1935 to 1939.

The average bills shown in the 5-part report are indicative of the price paid for electric service by residential customers in communities of 250 population or more; by commercial light and commercial power customers in communities of 2,500 population or more; and by industrial customers in communities of 10,000 population or more. The publication covers virtually all customers for these classes of service, the report states, as there are comparatively few urban residential customers in communities of less than 250 population, and the same situation prevails with respect to the number of commercial customers in communities of less than 2,500 population and the number of industrial customers in communities of less than 10,000.

Community Size Groups for All United States	*Type of Ownership*	*Number of Communities*	*Population of Communities*	*Average Bill for 25 Kwh.*	*100 Kwh.*	*250 Kwh.*
50,000 and more	Private	182	40,276,006	$1.41	$4.01	$7.32
	Public	19	2,550,434	1.11	3.08	5.50
	Both	191	42,826,440	1.40	3.96	7.21
10,000 to 49,999	Private	706	13,786,691	1.59	4.37	7.90
	Public	118	1,880,518	1.43	3.90	7.15
	Both	804	15,667,209	1.57	4.32	7.81
2,500 to 9,999	Private	1,933	9,130,052	1.67	4.53	7.97
	Public	498	2,351,971	1.58	4.31	7.81
	Both	2,400	11,482,023	1.65	4.48	7.94
1,000 to 2,499	Private	3,357	5,060,157	1.77	4.66	8.12
	Public	620	993,666	1.88	4.83	8.69
	Both	3,960	6,053,823	1.79	4.69	8.22
250 to 999	Private	12,064	5,812,838	1.88	4.85	8.35
	Public	847	452,203	1.99	5.28	10.01
	Both	12,900	6,265,041	1.89	4.88	8.47
All Size Groups	Private	18,242	74,065,744	1.54	4.25	7.64
	Public	2,102	8,228,792	1.46	3.95	7.17
	Both	20,255	82,294,536	1.53	4.22	7.60

ON a comparison of rates of publicly owned and privately owned electric utilities, the FPC study indicates that the former are generally higher in the United States. In other words, approximately 70 per cent of the publicly owned utilities are shown to charge more than private operations. This comparison is summarized in the above table taken from the report (page 48).

In the larger communities, where public operation is relatively scarce, the public plants charge lower rates. Thus, 19 municipal plants serve cities of 50,000 or more, and 10 of these are also served by private plants, usually under the same rate schedules, while 172 cities in the same population group are served exclusively by privately owned utilities. Most of the municipal plants (1,467 out of a total of 2,102) are found in communities of 250 to 2,500 population.

The report states, with respect to comparing publicly owned and privately owned utility operations:

> Privately owned utilities exclusively serve 18,153 communities of 250 population or more, or 89.6 per cent of the total number of communities. Publicly owned utilities serve 2,013 communities, or 9.9 per cent of the total. In 89 communities, or 0.5 per cent of the total, service is rendered by both a publicly and a privately owned utility. The population exclusively served by privately owned electric utilities is 72,629,209, or 88.3 per cent of the total population having electric service. Service by publicly owned utilities is rendered to a population of 5,596,084, or 6.8 per cent of the total. Both a publicly and privately owned utility render service to communities having an aggregate population of 4,069,243, or 4.9 per cent of the total. . . .
>
> The average bills for privately owned utilities are higher than comparable bills for publicly owned utilities in all the community size groups containing communities of 2,500 population or more. The average bills of privately owned utilities are lower than comparable bills for publicly owned utilities in all of the community size groups containing communities of less than 2,500 population.

The number of communities and population involved for each class of service by publicly owned utilities, by privately owned utilities, and by all utilities are separately given.

AVERAGE ELECTRIC BILLS 1939. Federal Power Commission, Washington, D. C. Price 10 cents. FPC R-17. December 27, 1939.

The March of Events

Bonneville Contract Signed

THE $77,000,000 Bonneville project will be paid approximately $10,000,000 in the next twenty years by the Aluminum Company of America, under terms of a contract for 32,500 kilowatts for a plant to be constructed in 1940 below Vancouver, Wash., Administrator Paul J. Raver announced last month.

If the aluminum company's initial $3,000,000 investment in a Columbia river production plant is expanded, as expected, the power requirement may be doubled, it was said.

The company will pay $17.50 a year for each kilowatt of prime power that it purchases from the government. Initial delivery will be 27,000 kilowatts. The demand will be increased at the rate of 500 kilowatts a month until it reaches 32,500. The plant will be finished and operations started about January 1, 1941, aluminum company officials estimated.

The contract, besides being the first for an industrial plant negotiated by Bonneville, was the eleventh executed by the agency and brought the total contractual demand for firm power to 47,435 kilowatts.

Utility Merger Proposed

NEGOTIATIONS were reported in progress recently for the purchase by Dallas, Tex., interests of $7,000,000 worth of public utility properties in five southwestern states and their merger into one Texas operating company with headquarters at Dallas.

D. Gordon Rupe, Jr., junior partner of Dallas Rupe & Son, investment banking house, said last month his firm had obtained options for the purchase of five southwestern subsidiaries of the Associated Gas & Electric Company of New York and had made examinations of the properties. He said preliminary contracts had been signed and a substantial amount of earnest money had been deposited in the East, where it will remain until final disposition of the deal.

A number of factors remain to be settled, however, he said. Franchises and titles must be approved by Dallas Rupe & Son's general counsel; the transaction must be approved by the Securities and Exchange and by public utility commissions of several states; and whatever securities may be publicly offered must be registered with the SEC.

Properties involved in the negotiations are the Arkansas General Utilities Company, the Louisiana Public Utilities Company, Inc., the Texas General Utilities Company, the Arizona General Utilities Company, and the Panhandle Public Service Company, the latter an Oklahoma concern.

All of these are subsidiaries of the Central U. S. Utilities Company, which in turn is controlled by Associated Gas & Electric Company through Associated Gas & Electric Corporation and still another subsidiary, the Associated Electric Company.

The SEC issued orders some time ago for the simplification of the involved financial structure of the AG&E system, and for geographical integration of its holdings.

FPC Chairman Named

LELAND Olds, of New York, was elected chairman of the Federal Power Commission last month, effective January 1st. His election is for the remainder of his term of office, which extends to June 22, 1944.

In the chairmanship he succeeded Commissioner Clyde L. Seavey, of California, who had been head of the commission since October 1, 1937, when Chairman Frank R. McNinch was transferred to the Federal Communications Commission, and who desired to be relieved of executive duties to continue his services as commissioner.

Before his appointment by President Roosevelt to the FPC last June, Mr. Olds was for a number of years executive secretary of the Power Authority of the State of New York.

TVA Scrutiny Advocated

REPRESENTATIVE Dirksen, Republican of Illinois, last month said proposals that the Federal government reimburse state and local governments for revenue losses occasioned by TVA's acquisition of private electric companies warranted "most careful scrutiny" of the agency's policies.

Asserting that the whole TVA project was becoming of "more and more moment to the taxpayers." Dirksen told newsmen the principle involved in the reimbursement proposals might apply to many Federal hydroelectric projects.

Referring to the statutes which he said Georgia enacted last March authorizing taxation of Federal agencies which carry on proprietary functions and local taxation of any Federal agency engaged in the generation and

sale of power, Representative Dirksen said:

"Should the statutes be upheld, it would mean that despite all the benefits conferred upon this area from Federal funds, the taxpayers of the other states would be called upon to help replace the taxes lost as a result of Federal activities, despite the fact that the taxpayers in other states derive no benefit from this operation. This would be almost as bad as charging Santa Claus for the privilege of coming down the chimney."

Dirksen added that he intended to ask that Carl A. Bock, former consulting engineer of the TVA, be called before a House Appropriations Subcommittee in January to testify as to why he resigned from the TVA.

Arkansas

Plans to Buy Utility

CITY officials of Fayetteville last month said they would immediately notify the Southwestern Gas & Electric Company of the city's intention to buy the company's light, heat, and power plant and distribution system and operate it as a municipal plant.

State law requires that the city give ninety days' notice and that the state utilities commission fix a purchase price if one cannot be agreed on.

An engineers' report said that a 10 per cent reduction in rates could be expected, and that bonds for purchase of the plant could be retired in ten years.

California

Acts to Grant Gas Franchise

A YEAR'S negotiations between the city of Huntington Park and the Southern California Gas Company regarding a franchise to the company were brought to a climax recently when the city council adopted a resolution declaring its intention to grant the franchise.

Involving a heated civic dispute last February, the issue has been widely discussed and councilmen were said to be proceeding cautiously that no objectionable reactions would result. January 15th was set as the date for a public hearing on the issue.

The company requested an indeterminate franchise to operate its office and consumer service in Huntington Park. In exchange for the franchise it offered the city an initial cash payment of $5,000 and a percentage of the company's earnings each year. No mention of the $5,000 was made, however, in the resolution adopted last month.

Officials of the company pointed out the city would enjoy an annual revenue of approximately $3,500 through their agreement to pay the city 2 per cent of gross income from local consumers. The franchise would have no effect upon consumer rates, it was pointed out.

Last February 15th a controversy over the issue resulted in a postcard ballot being conducted by the city. More than 13,000 return postcards were mailed registered voters requesting their opinion. Granting of the franchise carried by a 432 majority.

Indiana

Municipal Plant Tax Exemption Upheld

IN upholding the 1939 law exempting municipal utilities completely from taxation, except as to gross income tax, the state supreme court on December 22nd held that any back taxes due from the plants need not be paid.

The state supreme court affirmed the Montgomery County Circuit Court, which held that the part of Crawfordsville's electric plant used for private domestic and commercial purposes was exempt from taxes the same as the part used exclusively by the city government. The opinion also said that 1938 taxes placed on the plant need not be paid, even though the exemption act of 1939 was passed after the 1938 taxes were assessed. The high court found the law removed all taxes due from municipal plants except, of course, gross income tax.

Since the purpose of municipal plants is governmental, there can be no constitutional objection to their tax exemption, the court said.

The court's ruling may have repercussions in utility tax evaluation hearings before the state tax board. C. R. Benjamin, who took the view the supreme court had reversed itself in the case, said he expected private utilities now would seek lowered evaluations on pleas that competition has been stiffened by exemption of public utilities.

Massachusetts

Rates Ordered Reduced

A REDUCTION in electric rates estimated to save customers of the Quincy Light & Power Company $63,000 a year was ordered late last month by the state department of public utilities. At the same time the department announced that it would hold on the matter of further reductions if study of the situation warranted such action.

Reductions totaling $100,505 were put into effect in 1937, but the commission contended that even with such a reduction the company's earnings for 1939 will be approximately $338,106. The company was said to be one of the strongest financially in the state.

Michigan

City-owned System Proposed

THE problem of providing cheap gas for Detroit householders and industrialists was back in the limelight recently as the result of a direct recommendation from Corporation Counsel John P. O'Hara that city officials seek a solution to the question in a municipally owned gas system. The gas question was revived in a letter of resignation sent by O'Hara to Mayor Reading in which he listed it as "the problem above all other matters" which presents a case for rendering lasting service to Detroit.

Minnesota

Adopts Gas Report

THE St. Paul city council last month adopted a report of its utilities committee suggesting answers to five questions by the St. Paul Natural Gas Company, Inc., before any action is taken regarding the company's application for a city franchise.

The application, signed by Joseph C. Lenihan, president of the company, was referred to the committee early in December. The committee reported it must know:

1. The names of all officers, incorporations, and stockholders of the concern.
2. The amount of capital stock outstanding, how much had been offered for sale, and how much sold.
3. Whether pure natural gas or mixed gas was contemplated to be furnished by the company and whether it had a contract with any person or firm to supply gas.
4. What the rates would be.
5. Whether the company planned to build a distributing system or buy one.

Mississippi

Utility Assessments Decrease

THE state tax commission recently reported 1939 assessments of public utilities at $89,421,293 compared to $90,619,108 in 1938, a decrease of $1,197,815. Totals were exclusive of property of rural electric associations valued unofficially at $9,000,000 and tax free. Largest public utility assessment was that of the Mississippi Power & Light Company at $9,432,819, an increase of approximately $4,000,000 since 1932.

Assessments by classifications included 30 railways at $53,451,858; 8 pipe-line and gas companies, $8,756,130; 5 telephone and telegraph companies at $11,162,391; 13 electric, gas, and water companies, $14,966,335.

Mississippi law exempts receipts of rural electric organizations from the 2 per cent sales tax.

Nebraska

Signs 3-way Agreement

THE board of directors of the Loup River Public Power District on December 27th signed a tentative agreement for coördination of the activities of the three Nebraska PWA-financed hydroelectric projects.

The agreement, if signed by the Platte

Valley Public Power and Irrigation District and the Central Nebraska Public Power and Irrigation directors, would be taken to Washington by K. Sewell Wingfield, Nebraska PWA project engineer, for action by officials there.

Harold Kramer, Loup general manager, said the plan provides for a general operating board to be composed of the general managers of the three districts. The others are George Johnson, Tri-County, and Gerald Gentleman, Platte Valley. The general managers would set up an organization for operation of the districts, this to be subject to approval by directors of the projects. The general managers would then submit to the directors a proposed program of rates, contracts for power sale, and a plan for dispatching the loads from the generating plants.

All revenue would be collected by an agent of the board of managers and allocated back to the districts, each of which would submit an operating budget and pay expenses from its share of the receipts. The agreement, Kramer said, would be in force fifty years.

New York

Commission Report

THE state public service commission recently asserted that its utility regulatory program, at an expense of $10,751,012, had saved consumers in New York state $300,000,000 through reductions of rates in ten years.

The claim was made in a report which, prepared "to show what the commission's governmental functions are costing the taxpayers," emphasized the need of sufficient funds for "proper administration" of the Public Service Law.

The report, released coincidently with preparation of the 1940-41 state budget, cited the Republican legislature's reduction last winter of the current commission appropriation from $1,387,000 to $1,257,300, while the agency's duties "were left unchanged."

The commission estimated expenditures in the decade at 1.17 per cent of the total costs of the state government, despite "marked expansion" of jurisdiction.

Since 1930 legislation has placed under supervision of the commission nearly 200 small telephone companies, a program of rural electric line extension, operations of bus lines and trucks engaged in intrastate transportation of merchandise.

Ohio

Gas Hearings Set

THE broad authority of the government to regulate rates and otherwise control the transportation of natural gas from one state to another will be invoked in an Ohio case for the first time next April. On April 4th the Federal Power Commission will begin hearings on a case involving rates in a number of Ohio communities.

Authority for such investigations was granted under the new Natural Gas Act, called unconstitutional by its opponents and advocated by supporters as necessary to prevent excessive charges.

Preliminary to the Ohio hearing—perhaps the most important since passage of the law—the commission conducted an inquiry of the interstate rates affecting the cost of gas in Cleveland, Akron, and other Ohio cities. The cities are served by the East Ohio Gas Company, whose source of supply is the Hope Natural Gas Company of West Virginia.

Cleveland and Akron protested that the interstate price collected from East Ohio was too much. It was reasoned that reduction of this price would be reflected in lower rates to consumers. The Ohio cities want the FPC to cut the gate rate below the present charge of around 37 cents per thousand cubic feet.

City Seeks Option

THE Toledo city council last month advised the Toledo Edison Company it must grant the city an option to purchase its $70,000,000 plant before it will sign a new rate contract.

The company has offered rate reductions which would amount to about $498,000 annually, but a citizens advisory group has recommended the new contract for domestic business and factory consumers should grant a reduction of $1,250,000.

Court Makes Assignments

THE state supreme court on December 20th assigned the Columbus city light plant extension litigation and the Columbus gas rate case for argument in February.

The appeal of Columbus from an average gas rate of 56.22 cents fixed by the state utilities commission several months ago will be brought before the high court for argument on February 14th.

Arguments were assigned by the court for February 21st on the litigation in which the Columbus & Southern Ohio Electric Company was seeking to block the $1,030,000 improvement and extension of the municipal light plant under a bond issue approved by the voters of the city of Columbus in November, 1933.

Oklahoma

Power Program Threatened

VALIDITY of the Federal government's combined flood control and power generating program, in so far as it is sought to be carried out on non-navigable streams of the United States, may be tested before the U. S. Supreme Court as a result of action by the court last month on a complaint brought by the state of Oklahoma.

On complaint of the state that the Federal government was proceeding without constitutional authority in constructing a dam and power-generating plant on the Red river above its navigable point, the U. S. Supreme Court on December 18th ordered arguments to begin January 29th on a rule to show cause why a permanent injunction should not be issued against the project.

Considerable importance attaches to the proceedings, it was believed, because of possible bearing the outcome will have upon future power and flood-control programs of the government.

The Grand River Dam Authority recently urged the PWA to reconsider and approve appointment of its chairman, Ray McNaughton, as the $15,000-a-year general manager of the $20,000,000 hydroelectric project. Appointment of a general manager by the state-controlled Authority must receive approval of PWA, which is furnishing funds by loans and grants for construction of the power development. The board's appointment of McNaughton was rejected last month.

The Authority, in seeking reconsideration of McNaughton, declared "the board feels that no new man would be as familiar with the Authority business as McNaughton." It added that McNaughton was the "best qualified" of the applicants for the post vacated by R. V. L. Wright on December 1st.

Oregon

Signs Power Contract

THE city of Canby on December 22nd entered into a contract for the purchase of 300 kilowatts of prime Bonneville power for the next twenty years and agreed to retail it to its 386 customers at rates virtually identical with those now charged by Forest Grove's municipal system.

Delivery of power to Canby will be over Portland General Electric Company transmission lines pending completion of a substation to tap the almost completed 110,000-volt Bonneville line to Eugene. Canby now buys power at wholesale from PGE.

Bonneville Administrator Paul J. Raver and Mayor J. R. Vinyard and City Recorder Roy Mangus of Canby signed the contract. It was estimated that savings would range from 26 to 60 per cent. The contract provides that Canby will pay an equivalent of a regular city tax rate on its properties, valued at $25,000.

Rate Cut Approved

ORMOND R. Bean, state public utilities commissioner, last month gave "tentative approval" to new, lower rates proposed by the Portland General Electric Company and the Northwestern Electric Company for more than 155,000 residential consumers, effective January 1st.

The commissioner reserved the right to order minor changes in the rates after further study, but in approving the form and substance of the joint tariff submitted by the two private utilities assured that reductions would go through on schedule.

Franklin T. Griffith, president of PGE, revealed that the December bills of many of the firm's residential customers would show effect of the reductions. The order applies to all meter readings after January 1st, and those taken early in the month will be for December bills.

The utilities asserted that the new rates would reduce payments by domestic users by $710,000 annually — $570,000 for PGE and $140,000 for Northwestern—but the firms expect much of this revenue to be regained by stimulated use of electricity induced by the lower rates.

Commissioner Bean has ordered the two utilities to file new schedules for commercial lighting—estimated to save customers $640,000 annually—by May 1st, when they will go into effect.

The new domestic rates provide greatest reductions for low-use customers. The commercial rates will not be "a percentage cut," either,

Mr. Griffith said. The rate reductions are the result of two factors—bringing of Bonneville power to Portland in limited quantities, and public education to the advantages of greater use of electricity with cheaper rates, it was said.

South Carolina

Plan Exchange Line

C. P. Townsend, city manager of Abbeville, said recently that an allotment of an additional $40,000 by the Public Works Administration would be used for the construction of transmission lines from the Rocky river hydroelectric project to the Buzzard Roost project, Greenwood county, for an exchange of power. A total of $270,000 has been allotted the city for completion of the project.

The lake to be formed by the dam at the Rocky river project will be approximately 11 miles long and three-fourths of a mile wide. It will cover about 2,500 acres.

Townsend said the city recently had acquired controlling interest in the distribution system of the town of Lownesville.

Monson Morris, president of the newly organized Federal Electric Coöperative Association of South Carolina, last month stated that the lines of the State Rural Electrification Authority "are not owned by the people" and the Authority has "only taken care of very few selected people.

Morris, also president of the Aiken County Electric Coöperative Association, termed in a formal statement as "ridiculous" an announcement by the Authority that it would seek a $400,000 loan "to build more rural lines" as the Rural Electrification Administration in Washington has refused to lend any more funds to the state REA for building rural lines.

Tennessee

Transit Deal Completed

Al Kraemer, president of the Knoxville Transit Lines and Tennessee Coach Company Lines, last month completed negotiations in New York for purchase of the Nashville transit system. The Nashville system was owned by the Tennessee Electric Power Company, a subsidiary of Commonwealth & Southern Corporation.

Street cars are used throughout the Nashville system. M. H. Kraemer, secretary-treasurer of the purchasing company, said "one of the first things to be done is to motorize the entire system and do away with street cars." A minimum of 150 busses will be necessary in the Nashville system, Kraemer said.

A bus franchise ordinance patterned after the model ordinance drafted by the advisory board of the city council transit committee was to be submitted at the regular meeting of the council on January 2nd.

Texas

Air Conditioning Planned

The first air-conditioning system in the United States to be operated as a public utility will be installed in the downtown business area of Galveston by P. E. Nicholls, Jr., who recently obtained a 50-year franchise from the city council for the project. Construction of the plant must be started not later than June, 1940.

The distribution system will be operated from a central steam-generating plant where a vacuum jet cooler will be installed. Cold water will go out from the plant through underground mains, circulating through air-conditioning units in various buildings and then return to the plant for recooling.

Individual units, set up in stores, offices, and other places, will be equipped with cold water coils, air blowers, air filters, and thermostatic temperature controls. This service will be metered.

Washington

RFC Loan Sought

The Reconstruction Finance Corporation was expected to act this month on a loan application of the public utility district No. 2 of the state of Washington, proceeds from which would be used for the acquisition of the distribution system of the West Coast Power

Company. This application had already received the approval of the engineers of the RFC, according to officials.

If finally approved, this will be the first RFC loan to a Washington state utility district for purchase of private electric power equipment. The loan was understood to total $155,000. Heretofore, the state public utility districts have borrowed funds from private sources, or have issued their own securities for sale to the public.

It was also reported that the Bonneville Administration is negotiating for the transmission lines of the Willapi Electric Company rather than construct a competing line in that area.

Rates Cut

NORTHWESTERN Electric Company last month filed with the state department of public service a proposal to reduce rates to its customers in rural Clark, Cowlitz, and Skamania counties to effect savings estimated by the company to range from 8 to 25 per cent.

Northwestern's new proposed rates for outlying communities and farms start with 15 kilowatt hours for a minimum charge of 85 cents. The next 30 kilowatt hours will be 4.5 cents; next 80 kilowatt hours, 2.6 cents; next 100 kilowatt hours, 1.6 cents, and excess at 1.2 cents.

For customers with automatic water heaters, a block of 500 kilowatt hours will be available at 0.7 of a cent per kilowatt hour.

Seeks Court Approval

SUPERIOR court approval of its plan to take over a transmission line and other property of the Washington Water Power Company was sought last month by the Lincoln County Public Utility District. This was said to be the first action of its kind in eastern Washington.

Jack Cluck of Seattle and E. K. Murray of Tacoma, attorneys for the State Association of Power Commissioners, filed a petition asking that the company's property be adjudged a public necessity and just compensation be determined. The petition excluded the company's power plants at Little Falls and Long Lake on the Spokane river and several transmission lines leading from these stations.

Following this action Okanogan commissioners approved the issuance of revenue bonds, not exceeding $1,000,000, to acquire all the company's property in that county except a power-line crossing from Brewster to the Douglas county line.

Grant county commissioners of District No. 2, acting to acquire the property in that county, estimated the cost at $300,000.

Breaks Four Records

BREAKING four records, Seattle City Light's increasing business is giving the municipal utility its greatest year, a financial report of Arthur O. Olsen, chief accountant, showed last month. The report, covering operations through October, was filed with the city council.

The report led Lighting Superintendent E. R. Hoffman to comment:

"The current high rate of business activity has again caused energy sales to run sharply ahead of a year ago, and indications are pointing to a continued increase for the rest of the year."

City Light's new records were in revenue, kilowatt hours sold, ranges in service, and meters on the lines. Revenue for the 12-month cycle ended October 31st was $6,126,-619.40, an increase of $307,078.33 over the corresponding previous period. The October revenue was $512,787.66, compared with $490,-311.06 for October, 1938. Kilowatt hours sold reached the high of 372,720,144, an increase of 38,998,775 over the 12-month period ended October 31, 1938. Ranges on the lines numbered 36,728, an increase of 2,919 in a year, and meters numbered 100,294, an increase of 2,977 in a year.

Wisconsin

Utility Row Ended

AN order handed down by Circuit Judge A. C. Hoppmann last month completed nullification of all action taken since August 13, 1937, in the proposed acquisition of the Superior Water & Light Power Company by the city of Superior.

Hoppmann granted a motion of the Superior firm for dismissal of its appeal from a state public service commission order of June 29, 1938, setting value of the firm's property at $4,050,000. Ground for dismissal was voiding of the order under a supreme court ruling.

The supreme court in November upheld the company's appeal from a commission order of January 13, 1938, in which the commission attempted to reopen the acquisition case after it had evaluated the company property at $4,-625,000 through the order of August 13, 1937.

The state public service commission announced last month dismissal of a petition of O. S. Loomis, counsel for the city of Adams, to reopen the Adams municipal electric utility acquisition case. The commission's order of dismissal was signed by Chairman R. W. Peterson and Commissioner Robert A. Nixon dissented.

The Latest Utility Rulings

Correction of Low Power Factor in Use of Gaseous Tube Lamps

THE Oklahoma commission has dealt with the question of low power factor characteristic in the use of neon, mercury vapor, and other gaseous tube lamps by issuing an order requiring a user of such lighting equipment to install at his expense corrective equipment which will correct the power factor to not less than 90 per cent. Further, it is ordered, in the event the consumer fails to provide and use such corrective equipment, the burden of the extra cost to the utility of serving the uncorrected equipment may be placed upon the consumer.

The neon, mercury vapor, and other gaseous tube lamps, or lighting devices, the commission said, have come into rather general use within the past few years, and this type of lighting will undoubtedly become more and more important in the lighting field but, the commission continued:

> While this type of lighting is recognized as being highly efficient in respect to lighting qualities and economical operation, it has one undesirable characteristic, both from the standpoint of consumer and the electric company—namely, low power factor.
>
> In serving equipment of low power factor, the utility must furnish more current than will register on the kilowatt-hour meter; this excess "wattless" current, however, is no benefit to the consumer, but on the contrary is excess current in the consumer's circuit and the utility's system, and in many cases would cause overloading and overheating of the said lines. This low power factor, if uncorrected, has a decidedly unfavorable effect upon the size of wires and other equipment required in the consumer's circuit, as well as the utility's system. The attendant dangers and undesirable characteristics of low power factor can best be, and should be, cured by the consumer installing capacitors where the lighting equipment itself is installed. Such corrective equipment would not increase the amount of energy consumed, but takes the excess current out of the line, thus raising the power factor to approximate unity.

Re Power Factor Correction for Fluorescent Tube Lighting (Cause No. 17591, Order No. 13336).

Internal Management of Utility Corporation's Business Not Subject to Commission Control

THE New York Supreme Court, in a special term decision, annulled an order of the commission denying approval of a public utility corporation certificate to reduce capital. It was the opinion of the court that although the legislature could have vested direct internal control over the company in the commission in respect to a transfer of the resultant of the reduction, it plainly had not done so. Approval of the certificate was said to be at most a merely formal matter.

The corporation, pursuant to provisions of the Stock Corporation Law, had determined to reduce its capital by eliminating $3,000,000 which had previously, by resolution of the directors, been transferred and added to its capital. The statute provides that if a corporation subject to the provisions of the Public Service Law effects such a change in capital, the Secretary of State shall not accept a certificate of reduction unless there is endorsed upon it the consent and approval of the commission.

Approval was sought and denied. The corporation sought to place the $3,000,000 in a contingency reserve, but it was said to be the view of the commission that it would be preferable if this amount should be directly transferred to the reserve for depreciation, with certain reservations as to the effect of the transfer upon such reserve. Mr. Justice Bergan, of the supreme court, said:

> The power to make the capital change undertaken by petitioner's stockholders is granted directly to the corporation by statute. It is a matter of internal management of petitioner's business and control of its property. Respondents have no direct statutory authority over such a matter or jurisdiction to regulate it. The corporation itself "may effect" the capital change. Stock Corporation Law, § 36. The certificate effecting it and not the act itself needs approval by respondents. It is at most a merely formal matter.
>
> I conceive it that if the purpose is lawful and in conformity with statute, the certificate formalizing the record of what the corporation does must be approved. There is little evidence of any intention by the legislature to grant broad powers of discretion to the respondents by the device of so formal if not ministerial an act as the approval of a paper for the purpose of filing.

The court found nothing unlawful in the proposed capital change, and no reason founded in statutory policy, or in any public policy, had been shown why the certificate should not have formal approval. The examiner upon whose report the commission's order of denial was based expressed the conjecture that certain other methods of handling the fund to be transferred might be preferred. It seemed that the proposed reduction of capital was not itself objected to by the commission, but rather the commission regarded the place to which the resultant of the reduction was to go not to be so desirable as another disposition of it within the corporation's internal financial structure. *Rochester Gas & Electric Corp. v. Maltbie et al. 15 NY Supp (2d) 163.*

Street Lighting Held Part of Municipal Plant Rate Base

An order of the New York commission reducing rates of the village of Tupper Lake for service furnished by its electric plant was reversed by the appellate division of the supreme court on the ground that it was confiscatory. A return of 5.8 per cent was considered nonconfiscatory, but a return of 4.29 per cent was considered confiscatory by the court.

Whether the higher or the lower rate of return could be earned by the municipal plant depended upon what property would be included in the rate base. The total property involved included (a) property within the village used only for service to consumers therein; (b) property within the village and used to furnish service in lighting the streets and village buildings; (c) property used for service to consumers outside the village; (d) property used in furnishing service to a United States government hospital.

Neither the commission nor the municipality insisted upon inclusion of the property used in furnishing service to the hospital. In New York state the commission has no jurisdiction over a Federal hospital contract and operating properties in connection therewith. The court observed that it might be conceded that the elimination of such property creates an inequitable situation from a regulatory standpoint, but nothing can be done about it so long as the exemption stands.

The commission, however, had excluded also from the rate base property devoted to lighting streets and village buildings, which served the village at cost. The court held that this was improper; that a village operating an electric plant is entitled to a fair and reasonable return upon all of its property used and useful in the public service; that street-lighting properties come within this definition. It was said in part:

There is no precise authority on this point and a review of authorities alleged to bear upon it would be fruitless. It seems clear, however, reasoning from general principles, and a common-sense view of the purpose for which municipal utilities were created, that the commission's contention in this respect represents an ultra-refined distinction. The service furnished by the street lighting properties, for instance, is not merely to taxpayers but also to general consumers as well. The convenience, indeed, the necessity, serves all. The light shines on the general consumer in the same manner and for the same purpose that it shines upon the taxpayer.

While it may be true that the village owes a duty to light the streets, if that be so considered, then it must also be considered that such duty devolves upon the village in its governmental capacity, while as the owner of the plant it acts in a proprietary capacity. Such distinctions, however, are unnecessary. The term "public service" should be as broadly construed as the plain import the language carries, and under such construction public lighting is necessarily included thereunder.

Other issues on the appeal to the court were approached in the light of the rule that the court on such a review is limited to enforcement of constitutional rights; that it cannot substitute its judgment upon the facts for that of the commission but can only examine the facts to determine whether there is substantial evidence to sustain the determination made.

The court sustained an allowance for working capital, held that the commission had not erred in determining future operating expenses in that it did not spread the cost of a lawsuit over a power contract over a period of ten years, and that the commission did not err in not giving consideration to a contention that future revenues would decline 10 per cent from those shown for the previous year because of future business conditions. *Tupper Lake v. Maltbie et al. 15 NY Supp (2d) 491.*

Electric Company Denied Authority to Build Extension in Coöperative Territory

An application of the Duke Power Company for authority to build a rural electric line was denied by the commission where an electric coöperative had filed a protest against a grant of authority.

The rural coöperative, it was testified, had let the contract for the construction of a line in the same territory. The commission has no jurisdiction over the new coöperatives which are being established in South Carolina, but it does have power to grant or deny the right to a privately owned power company to build rural lines. *Re Duke Power Co.*

Plan for Refinancing Mortgage Bonds Approved

The Market Street Railway Company was authorized by the California commission to refinance its first mortgage 7 per cent sinking-fund gold bonds, Series A, in accordance with a plan submitted to the commission. The commission referred to the fact, however, that holders of the bonds are not compelled to deposit them in accordance with the plan, but it is for them to determine whether they can realize more by exercising their legal rights in a public foreclosure proceeding, or bankruptcy proceeding, than by accepting the plan.

The plan provided for deposit of bonds and for the payment of commissions to financial organizations to secure such deposits. Under the plan the interest rate on the bonds would be reduced from 7 per cent to 5 per cent, and sinking-fund provisions would be modified.

In the plan as submitted the company stated that it would agree that no pay-

ment of principal should be made on indebetedness to Standard Gas and Electric Company existing on the effective date of the plan, until the bonds as extended should have been paid in full. The Standard Gas and Electric Company, it was disclosed, held control over the corporation's affairs through ownership indirectly of 39.67 per cent of its outstanding stock. In the opinion of the commission the agreement should provide in addition that no payment be made of interest on indebtedness to the Standard Gas and Electric Company until the bonds should have been paid in full, and that if any interest is accrued on said debt, it be at a rate of not more than 4 per cent per annum. *Re Market Street Railway Co. (Decision No. 32467, Application No. 22954).*

Right of One Municipality to Furnish Service In Another

A NEBRASKA city sought unsuccessfully to back out of a contract which it had made for the purchase of electric utility property from a company operating in another municipality. The sale had been completed and the city had undertaken the service and was furnishing service at the time suit was started in court.

The contention was that the contract was beyond the powers of the municipality, but the court held that where a municipality is given power under circumstances then existing to furnish public utility service beyond its corporate limits, it has the right to provide service within the corporate boundaries of another municipal corporation. When a city seeks and obtains from the legislature permission to engage in a purely business or commercial enterprise, said the court, its act in so doing is purely voluntary on its part, and while engaged in such a business no governmental functions or corporate duties as a muncipality devolve upon it. The court continued:

> It is then engaged in an ordinary business enterprise, and is bound by all the rules of law and procedure applicable to any other private corporation or person engaged in a like enterprise. It has no greater or higher privileges or immunities than are possessed by any other private corporation. It is subject to the same liabilities and entitled to the same defenses. No more and no less.

City of Curtis v. Maywood Light Co. et al. 288 NW 503.

Regulated Monopoly Rather Than Competitive System Held to Be State Policy

THE Arizona Supreme Court sustained a judgment which set aside a commission order authorizing the amendment of an operating certificate so as to permit operation in an area being served by another carrier, on the ground that the commission had failed to give the existing carrier an opportunity to provide such service as the applicant proposed to furnish before granting the certificate. The court declared that the public policy of the state with reference to public service corporations is one of regulated monopoly rather than the competitive system.

The statutory provision that the commission may not authorize a common carrier to operate in territory being served by another carrier unless the existing carrier fails to provide such service as is deemed necessary by the commission does not, in the opinion of the court, protect the certificate holder who deliberately fails in his full duty to

the public, nor does it apply to an applicant offering a different service which public convenience and necessity require and which the certificate holder cannot furnish. Nevertheless, in considering an application for operating authority, the commission must determine whether the new service offered is more in the public interest of the traveling public than that furnished by the existing carrier, and, if so, it should then offer the existing carrier an opportunity to furnish such new service, and, if the latter can do so, should deny the application. If, however, the existing carrier cannot or will not furnish that service, the application should be granted.

Furthermore, it was held that the commission must determine whether authority should be granted on the basis laid down by law. Therefore, there can arise no question as to a carrier's estoppel to contest an agreement made with the applicant that it would not object to the latter's operating over certain routes contrary to the authorization in its certificate. *Corporation Commission et al. v. Pacific Greyhound Lines, 94 P(2d) 443.*

Other Important Rulings

THE Texas Court of Civil Appeals held that a petition to restrain the commission from enforcing regulations fixing charges for transportation of oil field equipment and supplies did not state a cause of action, where it failed to allege in what manner these rules were arbitrary, unreasonable, unjust, and discriminatory, and that the petitioner had attempted to obtain relief by suit in a designated court or that he had a certificate authorizing him to operate his truck in the transportation of freight over the state highways. *Railroad Commission et al. v. Young, 132 SW(2d) 147.*

The supreme court of Washington held that the commission, in permitting railroads which are common carriers of freight to prepare and file their own tariff, which, when approved, becomes the official, lawful tariff, while at the same time requiring motor vehicle common carriers to adopt the tariff prepared by it as the only lawful tariff applicable thereto, is not violating the privileges and immunities clause of the Constitution, since there is a reasonable basis for classification. *Pacific Inland Tariff Bureau v. Schaaf.*

The supreme court of Minnesota, in reversing an order granting an injunction against a municipal bond issue for construction of an electric plant, held that Laws 1939, Chap. 137, a curative act, was not open to challenge upon the ground of unconstitutional duplicity of subject matter solely because it embraced means of financing a utility as well as the processes of acquiring it in the first instance, all such matters being properly considered as a unit. *Vorbeck v. City of Glencoe et al. 288 NW 4.*

The supreme court of North Carolina held that a motor coach company had the right to appeal from an order of the commission refusing to remove a restriction from its franchise obtained from the commission, although an applicant for a franchise or privilege has no property right in a franchise until it has been granted and denial of such franchise cannot be considered an invasion of property rights. The court ruled that the order was appealable since the statute permitting appeals does not confine appeals only to matters of property rights. *Utilities Commission v. Carolina Scenic Coach Co. 4 SE(2d) 897.*

NOTE.—The cases above referred to, where decided by courts or regulatory commissions, will be published in full or abstracted in *Public Utilities Reports.*

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VOLUME 31 PUR(NS) NUMBER 2

Points of Special Interest

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TITLES

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UNITED STATES CIRCUIT COURT OF APPEALS, FOURTH CIRCUIT

United States

v.

Appalachian Electric Power Company

[No. 4460.]

(— F(2d) —.)

Appeal and review, § 25 — Conclusiveness of findings — Federal court rule.

1. A circuit court of appeals, reviewing a decision of a district court in a case determined by the court without a jury, is guided in its consideration of the judge's findings of fact by Rule 52 of the Federal Rules of Civil Procedure providing that such findings shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to judge of the credibility of the witnesses, p. 76.

Appeal and review, § 25 — Conclusiveness of findings — Federal court — Review of evidence — Importance of case.

2. A circuit court of appeals, reviewing findings of fact by a district court judge in an important case involving conflicting contentions as to state and Federal power and an important policy-making act of Congress, as well as individual property rights, necessarily reviews carefully the evidence in the case on which the findings of the district judge are based, p. 76.

Water, § 16 — Title to bed — Navigable waters.

3. The title to the beds of navigable waters within a state is vested in the state unless under its laws they belong to the riparian owners, p. 77.

Water, § 2 — Rights of United States — Control of navigation.

4. The right of the United States in navigable waters within the several states is limited to the control thereof for purposes of navigation; the Federal government has no property right in navigable streams or in the waters thereof, p. 77.

Water, § 4 — Powers of Federal government — Interstate commerce powers — Navigable waters.

5. The control of navigation by the Federal government within the proper scope of the interstate commerce power is plenary, but its sphere of operation is necessarily limited to the protection of commerce which is interstate, and the control over purely intrastate rivers and streams, as such, remains with the state whether the waters are navigable or not, p. 77.

Water, § 4 — Powers of Federal government — Navigable waters.

6. Even an interstate stream which is not in fact navigable for the purpose of interstate commerce is not subject to the control of the Federal government except to the extent necessary to protect other navigable waters, and Federal legislation with respect to navigable waters is permissible only when it has some real and substantial relation to the control of navigation, p. 77.

Water, § 35 — Navigability of streams — Interstate use.

7. An interstate stream is navigable in fact only when it is so used or susceptible of being used in its natural and ordinary condition, and it must be capable of valuable public use in its natural condition, must have a capacity for useful interstate commerce of a substantial and permanent nature, and must have capacity for general and common usefulness for purposes of trade and commerce; only occasional or exceptional use under abnormal conditions is not sufficient, p. 78.

Water, § 35 — Navigability of streams — Question of fact.

8. The question of navigability of a stream is one of fact, and each case must be determined on its own circumstances, p. 84.

Water, § 35 — Evidence of navigability — Actions of government.

9. A determination by the Federal government itself to erect a large dam and reservoir on a stream without locks or other means for navigation, approval by the War Department of plans and specifications for a dam without provision for locks, and the tendering of a license by the Federal Power Commission on the basis of a finding that construction of a dam would not be an obstruction to navigation but properly operated would be an improvement thereof, are important evidentiary facts bearing on the question whether there is now or ever has been navigability in fact, p. 84.

Injunction, § 52 — Burden of proof — Navigability of streams.

10. The Federal government, in a suit to restrain a power company from constructing a hydroelectric project on a stream without governmental authorization, on the ground that the stream at the point involved constitutes navigable waters of the United States, has the burden of proof to show that the river was a highway for substantial and permanent trade and travel of a generally useful and valuable nature between this point and other points, p. 85.

Water, § 35 — Navigability of streams — Possibility of navigation — Possible improvement.

11. A stretch of river not navigable in fact in its unimproved condition is not to be considered navigable merely because it might have been made navigable by improvements which were not in fact made, p. 85.

Evidence, § 18 — Weight — Testimony — Memory of past events.

12. Recollection testimony, for the most part by elderly men testifying purely from unaided memory of events long past, has inherent infirmities and is obviously not entitled to the weight to be given to contemporary official written records, p. 87.

Water, § 35 — Navigability of stream — Experimental improvement work.

13. Government work on a river is not conclusive or even very important as a factor in favor of navigability when the work was experimental and was finally abandoned, such work not essentially changing the original non-navigable condition and being limited to a few local stretches, p. 88.

Injunction, § 52 — Burden of proof — Navigability of stream.

14. The Federal government, in a suit to restrain the construction of a power dam on the ground that its maintenance and operation would obstruct the navigable capacity of downstream navigable waters of the United States, has the burden of proof to establish its contention that construction of the dam would so affect navigable capacity, p. 91.

Injunction, § 36 — Dam construction — Threat to navigation.

15. The Federal government is not entitled to an injunction restraining the construction of a power dam in a stream on the ground that this would affect the navigable capacity of downstream navigable waters of the United States unless it establishes an existing or presently threatened impairment of such navigable capacity; and where the defendant in such a case evidently in good faith denies any intention to commit an injury, the plaintiff must show that the injury sought to be avoided by the injunction will be necessarily or practically certain and not merely the probable result of the act intended or not, p. 91.

Appeal and review, § 28.1 — Conclusiveness of findings — Federal Commission decision — Constitutional question of jurisdiction.

16. The rule that findings of an administrative tribunal must be accepted, if supported by substantial evidence, is not applicable in an injunction suit by the Federal government to restrain construction of a dam on the ground that the defendant has failed to obtain a license from the Federal Power Commission, which has made findings with respect to navigability and the effect of the dam on navigability and on interstate commerce; the judicial decision involves a constitutional question of the jurisdiction of the Commission in relation to the distribution of state and Federal powers and of riparian property rights of the defendant, and the court is required to determine the question of fact de novo on the record made at the trial, p. 93.

Constitutional law, § 4 — Waiver of rights — Submission to Commission.

17. No proper waiver of constitutional rights results from an application to the Federal Power Commission for a finding that the Commission is without jurisdiction and for a minor-part license, when the Federal government has in no way been prejudiced thereby and the applicant throughout has clearly stated its legal position to the effect that the Commission did not have jurisdiction, and the applicant is not estopped to question a finding of the Commission that it has jurisdiction, p. 94.

Constitutional law, § 20 — Due process — Hearing — Conclusiveness of finding.

18. Findings by a Commission to an extent based on information obtained informally and ex parte, and not brought out at a notified hearing where it would be subject to cross-examination and possible refutation, cannot properly be considered as consistent with due process if sought to be made conclusive on a party, p. 94.

Water, § 5 — Powers of Federal Commission — Licenses — Nonnavigable waters.

19. A broad construction of § 23 of the Water Power Act of 1920 so as to give the Federal Power Commission jurisdiction over dams proposed to be constructed on nonnavigable waters, irrespective of the effect of the dam on navigable waters of the United States, whenever the Commission finds after investigation that the interests of interstate or foreign commerce would be affected by such proposed construction, is not tenable to the extent that it is dissociated from navigation, p. 96.

Water, § 18 — Scope of Federal act.

20. The Federal Water Power Act of 1920 as a whole indicates that it was intended to assert control, where Federal property is not concerned, only where the interests of navigation as an incident of interstate commerce are affected, p. 96.

Water, § 4 — Powers of Congress — Nonnavigable waters.

21. The only authority or jurisdiction of Congress over nonnavigable waters within a state, where the riparian rights are not owned by the government itself, flows from the interstate commerce power, which with respect to rivers and streams as such is limited to the protection of navigation of other streams, p. 96.

Water, § 5 — Powers of Federal Commission — Interstate commerce powers.

22. The Federal Power Commission is given authority under the Federal Water Power Act only over a stream over which Congress has jurisdiction under the interstate commerce power, p. 96.

Constitutional law, § 15 — Deprivation of property — Rights of riparian owners — Nonnavigable streams.

23. The riparian owner on a nonnavigable stream is entitled to reasonable use of the flowing waters, not impairing downstream navigable capacity, subject to no easements in favor of navigation, and this is a property right which cannot be taken from him without just compensation; and to prohibit a power company from the exercise of its riparian rights in the construction of a power dam where no interests of navigation are involved would be a taking of private property without due process, p. 96.

Constitutional law, § 15 — Deprivation of property — Congressional powers — Interstate commerce.

24. Congress has no authority to take private property without just compensation as an exercise of the regulation of commerce, p. 96.

Injunction, § 2 — Equitable remedy.

25. The issuance of an injunction by a court of equity is an extraordinary remedy which should not be granted when, under all the circumstances of the case, it would seem inequitable to do so, p. 104.

(PARKER, C. J., dissents.)

[November 6, 1939.]

APPEAL *from judgment denying injunction to restrain construction of dam without license from Federal Power Commission; affirmed.*

APPEARANCES: John W. Aiken, Special Assistant to the Attorney General; David W. Robinson, Jr., General Counsel, and Gregory Hankin, Special Counsel, Federal Power Commission (Richard J. Connor, Assistant General Counsel; Willard W. Gatchell, Principal Attorney, and Howard E. Wahrenbrock, Senior Attorney, Federal Power Commission, on brief) for appellant; and Raymond T. Jackson, Wendell W. Forbes, and John L. Abbot (M. F. Millikan, A. Henry Mosle, Creswell H. Micou, Frazer M. Horn, and M. W. Belcher, Jr., on brief) for appellee; Clarence J. Meadows, Attorney General of West Virginia, as amicus curiae, and Abram P. Staples, Attorney General of Virginia, as amicus curiae, on brief.

CHESNUT, D. J.: The question for decision is whether the Appalachian Electric Power Company, a Virginia

corporation (the defendant below and the appellee here), should be enjoined from the construction of a hydroelectric power dam in the New river at Radford, Virginia. To obtain this injunction the United States filed its complaint on May 6, 1935, in the district court of the United States for the western district of Virginia, in which it charged that the erection of the dam would be in violation of §§ 9 and 10 of the Rivers and Harbors Act of 1899 (33 USCA §§ 401, 403), and also contrary to the provisions of §§ 4(d) and 23 of the Federal Water Power Act of 1920 (16 USCA §§ 791–823), which was amended August 26, 1935, 49 Stat. 838.

Section 9 of the Rivers and Harbors Act provides in part that: "It shall not be lawful to construct or commence the construction of any bridge, dam, dike, or causeway over or in any port, roadstead, haven, harbor, canal, navigable river, or other navigable water of the United States until the consent of Congress to the building of such structures shall have been obtained and until the plans for the same shall have been submitted to and approved by the Chief of Engineers and by the Secretary of War." And § 10 provides in part:

"The creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity of any of the waters of the United States is hereby prohibited. . . ."

Under this statute it was necessary to obtain an act of Congress to authorize the construction of a hydroelectric power dam in a navigable water of the United States, but by the Federal Water Power Act of June 10, 1920 (41 Stat. 1077; 16 USCA Chap. 12, §§ 791–823) Congress created an administrative commission with authority to issue licenses to construct, operate, and maintain "dams, water conduits, reservoirs, power houses, transmission lines, or other project works necessary or convenient for the development and improvement of navigation, and for the development, transmission, and utilization of power across, along, over, or in any of the navigable waters of the United States," such licenses (§ 803) to contain certain specified conditions, some relating to matters affecting navigation and others of an economic and financial nature; and with the further proviso that the Commission in its discretion might waive any of the conditions except the license period of fifty years, if the license was "for a minor part only of a complete project." Under the original Act of 1920, the Commission was composed of the Secretaries of War, Interior, and Agriculture; but by amendment of June 23, 1930 (46 Stat. 797), the personnel of the Commission was changed to five commissioners appointed by the President by and with the advice and consent of the Senate.

Upon procedure provided for in the act, the Commission approved the construction of the dam at Radford in accordance with the plans and specifications therefor which had been approved by the Chief of Engineers and by the Secretary of War with respect to navigation, and formally tendered to the Appalachian Electric Power Company a so-called "major" license containing all the conditions enumerated in § 10 of the Act (16 USCA § 803). The company expressed its willingness to accept the license with

all proper regulations affecting navigation but requested the Commission to waive other conditions not affecting navigation, particularly those which related to the regulation of rates to be charged for electric power, the setting aside thereout of amortization reserves, and the so-called "recapture clause" giving to the United States the right to take over the project at the expiration of the license period of fifty years upon the basis of original cost less amortization reserves. Among its objections to these latter conditions the company made the point that the Commission was without constitutional authority to prescribe conditions other than those affecting navigation. The Commission refused to waive any of the conditions of the major-part license; and thereupon the company, having acquired all riparian and overflowage rights and specific and full authority from the state of Virginia, proceeded toward the erection of the dam without obtaining a license from the Commission. The injunction suit followed.

In its complaint the government took the position that the New river throughout its whole course constituted navigable waters of the United States, and therefore the dam could not be constructed without permission from Congress or a license from the Commission; and, further, that the construction and operation of the dam would necessarily be an obstruction to the navigable capacity of waters of the United States; and in any event was prohibited by the Federal Water Power Act unless licensed by the Commission. The answer of the defendant controverted all three of these propositions.

Proceedings before This Suit

The proceedings before the Commission ran over a period of several years. Section 23 of the Federal Water Power Act of 1920 provided that persons intending to construct a dam in a stream "other than those defined in this chapter as navigable waters, and over which Congress has jurisdiction under its authority to regulate commerce between foreign nations and among the several states, may in their discretion file a declaration of such intention with the Commission," and if after investigation the Commission should find that the interests of interstate or foreign commerce would not be affected, permission was granted for the construction; otherwise not without a license granted by the Commission. Then original project for the Radford dam was initiated by a predecessor of the Appalachian Electric Power Company, the New River Development Company, which filed its declaration of intention with the Commission on June 25, 1925, after first obtaining an opinion from Engineers of the War Department that the river was not navigable, and therefore in its view not subject to the jurisdiction of the Commission. The declaration stated among other things that "the proposed project will be so constructed and operated so as not to impair the navigable capacity of the stream below, nor to affect the interests of interstate or foreign commerce." Thereupon the Commission requested a report on the declaration from the Chief of Engineers of the War Department, General Harry Taylor. His report of August 20, 1925, was to the effect that no sufficient reason was seen why the

Commission should not exercise jurisdiction over the proposed project because, while there was no present navigation on the river, there had been some on parts of the river in the past and the government had done work on certain parts of the river to improve navigability; and the water-flow from the dam, if not properly regulated, could have an adverse effect on navigation during low-water stages in the Kanawha river; but that such possible adverse effect was not such as to warrant refusal to permit the construction of the dam if control was maintained by the United States. On October 24, 1925, the declarant wrote to the Commission requesting reconsideration by General Taylor of his report and submitting additional data relating to New river, which he said had not been considered in his original report. Thereafter General Taylor reconsidered the matter and rendered a second report to the Commission on December 29, 1925, in which he said:

"A careful study has been made of all the data presented by the declarant and a further study has been made of all available data and records bearing on the question at issue which are available in this office, or which could be obtained from other government bureaus. The following report is the result of the additional studies which have been made and the additional information which has been obtained since the date of my original report."

In conclusion he stated: "I, therefore, report that in my opinion New river in its present condition is not a navigable stream and that navigation on the Kanawha river will not be adversely affected by the proposed power development."

On March 2, 1926, the Power Commission held a hearing on the declaration of intention as to the building of the power dam. The only evidence then submitted was the second report of General Taylor, but there was argument by counsel for the company and by the attorney general of Virginia who appeared in opposition to the assumption of jurisdiction over the project by the Federal Power Commission. On April 17, 1926, the Commission transmitted to General Taylor certain data with respect to the Pitt river in California which was considered as having a bearing on the question of the effect upon navigation on the Kanawha river by variations in the discharge of water from the Radford dam, and requested his opinion thereon. On July 23, 1926, General Deakyne, Acting Chief of Engineers, replied that the data with regard to the stream flow of the Pitt and Sacramento rivers in California afforded no reliable comparison for New river by reason of different conditions, and that the correct procedure would be to study the action of waves in New river produced by discharges from dams then operating on the river. He referred to a very exceptional dry summer of 1925 and suggested the possibility that exceptionally dry seasons may occasionally occur during which the Radford dam, if unregulated, might adversely affect the navigable capacity of the Kanawha river.[1]

The declaration which had been filed by the New River Company was as-

[1] The experiments suggested by General Deakyne subsequently made on New river were discussed in the opinion of the district judge.

signed to and adopted by the Appalachian Company with the consent of the Commission on August 30, 1926, and on September 2, 1926, the Appalachian Company filed an application for a license on the Commission's suggestion that it would expedite matters and could be withdrawn if it later developed that no Federal license would be required. Pursuant to custom the District Engineer of the War Department gave public notice for a hearing at Radford on October 28, 1926, but no evidence was then introduced. Thereafter the District Engineer made a report on December 22, 1926, favorable to the issuance of the license. On June 1, 1927, the Commission made a finding that the New river "is not 'navigable waters' within the definition thereof in said act," but that the interests of interstate and foreign commerce would be affected by such proposed construction. It was not stated in what respect interstate commerce would be affected by the dam; but it appears that the Commission had reference to the effect on navigability of the Kanawha river; and the action of the Commission in that regard seems to have been based principally on its consideration of the data regarding the California rivers. On July 1, 1927, the Commission tendered a full "major" license to the Appalachian Company. On April 26, 1928, the company wrote the Commission that it was willing to accept all conditions reasonably designed to protect the navigability of the waters of the United States, and to be controlled by any reasonable rules and regulations which the Secretary of War might prescribe in the interests of navigation, but that unless the Commission could issue a license, the conditions of which related solely to navigation, the company would proceed with the construction of its dam without obtaining a license from the Commission. The letter also requested reference of certain questions of law to the Attorney General of the United States. This request was not acted on at the time; and on February 4, 1930, the company again wrote the Commission asserting its position that its project as operated would not affect navigable waters and therefore was not within the jurisdiction of the Commission and asking reconsideration of the subject, but nevertheless suggesting that if the Commission still asserted jurisdiction, the company would be willing to accept a so-called "minor-part" license containing only such conditions as would protect the interests of the United States in navigation. The letter enclosed a memorandum or brief in support of the authority of the Commission to grant such a license. On July 21, 1930, the Commission requested the opinion of the Attorney General of the United States as to its authority to issue a so-called minor-part license, and in formulating the question stated that "New river is neither navigated nor navigable in fact." On September 22, 1930, Attorney General Mitchell in an extended opinion advised the Commission that it could properly do so. He said:

"This interpretation appears necessary in order to avoid serious questions regarding the constitutionality of the act which might be presented if § 10(i) should be interpreted so as to have no application to projects constructed in or on nonnavigable streams, which only remotely and indirectly affect the navigability of wa-

ters in the lower reaches of streams to which they are tributaries."[1a]

On October 6, 1930, the Appalachian Company requested action on its application for a minor-part license and submitted revised maps and plans for the project on October 16, 1930. On October 31, 1930, the Commission forwarded to the company a draft of a minor-part license and on November 6, 1930, a revised draft of the same. This omitted the objectionable conditions as to rates, amortization reserves, and recapture. The company replied that the form was satisfactory and that if license was tendered it would at once begin construction work. In the meantime the draft of minor-part license had been submitted to the acting chief counsel for the Commission who submitted a memorandum disapproving its issuance because it was not sufficiently shown that the company had complied with the laws of Virginia, and in his opinion it did not adequately protect the interests of the United States; and that the previous finding of the Commission that the river was not navigable waters of the United States was incorrect and should be reversed. The memorandum of counsel was submitted to the chief engineer of the Commission who replied in an extended memorandum not agreeing with the views expressed, and the Commission then resubmitted the question of navigability of the river to the then Acting Chief Engineer of the War Department, General Brown, enclosing the memorandum of the acting chief counsel of the Commission, and that of its chief engineer. General Brown replied that after reviewing the data there was no reason for changing the previous report of his office dated December 29, 1925, saying "it is my opinion that New river is not navigable at any point in its course." On October 18, 1930, Major Herman, the district engineer for New river, had submitted a report in reference to a particular inquiry as to the navigability of New river at certain points in which he concluded: "It is the district engineer's opinion, therefore, that New river is not navigable in fact either at Jackson's Ferry or Glenlyn, or at any other point in its course." On October 24, 1930, Colonel Spaulding, the division engineer for New river, expressed his full concurrence with Major Herman's opinion. The company submitted to the Commission an official letter from the governor of Virginia stating that the company had complied with Virginia laws for the construction of the project.

On November 25, 1930, at a meeting of the Commission, consideration was given to the issuance of the minor-part license and "after due consideration the Commission declined to take action on the application, favorable or adverse. It was concluded that in view of the importance of the questions of jurisdiction as between the United States and the state of Virginia involved in this case a court adjudication is desirable." At the Commission's meeting on January 26, 1931 (the personnel of the Commission having changed pursuant to the amendment of the act above referred to), the subject was again brought up and, in view of "the extreme importance of the legal questions involved," the Commission determined to hold another

[1a] Section 10(1) related to issuance of minor-part licenses.

public hearing, notice for which was given for February 16, 1931. At that hearing attorneys for the company and for several states submitted arguments and briefs respecting the interpretation of the Power Act, and the constitutional power of the Federal government with regard thereto, and the authority of the Commission to issue a minor-part license. No evidence was introduced. On April 3, 1931, the Commission filed an opinion and order denying the application for a minor-part license, and directing that the Appalachian Company be tendered a standard form license under the act, and ordering that it should not proceed with construction without such license. A minority of the Commission then favored a reversal of the former finding that the river was not navigable waters, but the majority were of the opinion that that question was one for the courts; that any finding of the Commission in that respect would not be binding upon the courts; and that the jurisdiction of the Commission was properly based upon § 23 of the Power Act above referred to.

Thereafter on June 8, 1931, the Appalachian Company filed suit in the United States district court for the western district of Virginia against the individual members of the Commission to remove a cloud on the title to their land and to restrain the defendants from interfering with the company's use of its property. The case was dismissed by the district judge on the legal insufficiency of the complaint, but on appeal to this court the case was dismissed for lack of personal jurisdiction over the defendants. Appalachian Electric Power Co. v. Smith (1933) 67 F(2d) 451, 458. While the case was pending in the district court the Commission on October 12, 1932, adopted a resolution which, after referring to the pending case and the contentions of counsel therein as to the navigability of the New river, and the findings and action of the Commission with respect thereto, stated: "The Commission finds and declares that New river, from the mouth of Wilson creek, Virginia, north, is navigable waters within the definition thereof, as set forth in § 3 of the Federal Water Power Act." This last action of the Commission was not taken after notice or hearing additional evidence.

The Issues in the Present Suit

The Appalachian Electric Power Company began construction work on the dam about June 1, 1934. The bill of complaint in this case was filed May 6, 1935, to enjoin construction of the dam, averring that "New river is a navigable interstate stream arising in North Carolina and flowing in a northerly and northwesterly direction across the state of Virginia, into West Virginia, to the junction of Gauley river and New river, from which point it becomes known as the Kanawha river;" that the dam would constitute an obstruction to navigation and its construction was in violation of the two acts of Congress above mentioned. The answer of the defendant denied these contentions. The principal and controlling issues presented by the pleadings are therefore (1) whether the New river at Radford, Virginia, constitutes navigable waters of the United States; (2) if not, whether the construction and maintenance of the dam will naturally and necessarily

obstruct or substantially impair the navigability of any other navigable waters of the United States and particularly those of the Kanawha river into which New river flows, or the Ohio river, into which the Kanawha flows; and (3) if neither of these facts is found, whether the defendant's actions are in violation of the Federal Power Act. There are some subordinate or incidental issues of law involved in these major propositions, one of which is the contention that the Commission's declaration of October 12, 1932, constituted a finding of fact that the New river is navigable; was based on substantial evidence and, therefore, was conclusive in the case. There is also the contention by the Appalachian Company that there is no constitutional basis for the economic and financial conditions of the so-called major license contained in the Power Act as they do not in any way relate to navigation.

There was a lengthy trial of six weeks or more in the district court and a very voluminous record has resulted.[2] Much testimony was introduced regarding the physical characteristics of New river throughout its course and in particular stretches; concerning its history from its original discovery late in the seventeenth century; its use or lack of use for navigation during its history; the roadways and railroads touching it; the produce or commerce of the neighboring country; the natural and usual or normal methods of operation of a hydroelectric dam; the possible or probable or intended method of operation of the particular Radford dam; and the effect, if any, that the discharge or lack of discharge of water therefrom would have upon the lower stream. The greater part of the extensive testimony was given before and orally heard by the district judge, and there was also a large amount of documentary evidence relating to the history and physical characteristics of the river, and reports of Engineers of the War Department with respect to conditions found during the brief period of expenditure of government funds on strictly localized portions of the river, and proceedings before the Power Commission. The evidence also contains very numerous exhibits including many photographs of the river at various points, and maps and plats.

After the trial and consideration of briefs of counsel, the district judge filed an extended opinion (United States v. Appalachian Electric Power Co. 1938) reported in 23 F Supp 83, in which he discussed the issues of law and fact and separately made specific findings of fact and conclusions of law. On the controlling facts he found: "13. The New river is not a navigable water of the United States, either at the site of defendant's project or elsewhere throughout its course. The site of defendant's project is approximately 152 miles above the mouth of New river and approximately 160 miles above the head of navigation on the Kanawha river.

"15. The construction of the defendant's project will not obstruct the navigable capacity of the Kanawha river or of any navigable water of the United States. And the operation of defendant's project in any normal, rational, or probable method of operation will not obstruct or impair the

[2] The printed matter submitted for our consideration on this appeal, including briefs, extends over 3,642 pages.

navigable capacity of the Kanawha or any navigable water of the United States and will not affect the interests of interstate commerce."

On issues of law he determined that the New river is not a navigable water of the United States; that findings made by the Power Commission are not final, but in each case are subject to the determination of the courts; that the proper construction of the Power Act did not vest in the Commission the authority to require a license for a project in a nonnavigable stream; that even if the Commission had power to require some license for a power dam in nonnavigable waters of the United States, it could not validly impose therein conditions having no relation to navigable capacity of any navigable water of the United States; and that its action in seeking to impose upon the defendant the full major-part license in this case without constitutional authority to do so, bars its right to the relief prayed for; and that the bill of complaint should be dismissed as without equity. By the decree of May 10, 1938, the bill was dismissed, but the opinion concluded at p. 117 of 23 F Supp: "By that it is, of course, not meant to hold that all rights of the United States to complain of this project are forever barred. If at any time in the future the project should be operated in such manner as to interfere with the navigable capacity of the Kanawha or any other navigable water (a contingency which appears most improbable), the United States will not be barred from asserting its right to protect this navigable capacity by compelling a removal of the structure or such modification of its operation as is necessary. But I am convinced that the evidence in this case does not disclose grounds for the issuance of an injunction at this time and the prayer for an injunction will be denied and the bill dismissed."

[1, 2] As the facts in this case were determined by the court without a jury, we are guided in our consideration of the findings of fact made by the district judge by Rule 52 of the new Federal rules of civil procedure, which provides:

"52. In all actions tried upon the facts without a jury, the court shall find the facts specially and state separately its conclusions of law thereon and direct the entry of appropriate judgment. . . . Findings of fact shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to judge of the credibility of the witnesses."

The new rule has been recently applied here in Guilford Const. Co. v. Biggs (1939) 102 F(2d) 46, where, in an opinion by Judge Parker, it was said:

"The provisions of the new procedural rules that the findings of fact of the trial judge are to be accepted on appeal unless clearly wrong (Rule 52(a), 28 USCA following § 723(c) is but the formulation of a rule long recognized and applied by courts of equity. Adamson v. Gilliland (1917) 242 US 350, 61 L ed 356, 37 S Ct 169; Deutser v. Marlboro Shirt Co. (1936) 81 F(2d) 139, 142; Sherman v. Bramham (1935) 78 F(2d) 443; Miller v. Pyrites Co. (1934) 71 F (2d) 804; Suburban Improv. Co. v. Scott Lumber Co. (1933) 67 F(2d) 335, 90 ALR 330."

This rule seems to have special application in a case such as this where the trial has been exceedingly lengthy, very many witnesses have been heard orally by the district judge, and the subject matter so largely concerns a prominent geographical feature of his own district. Nevertheless in view of the importance of the case, involving as it does conflicting contentions as to state and Federal power, and an important policy making an act of Congress, as well as individual property rights, we have felt it particularly necessary to carefully review evidence in the case on which the findings of the district judge are based. The states of Virginia and West Virginia have separately filed briefs in this case as amici curiæ taking the position that the New river, both in Virginia and West Virginia, does not constitute navigable waters of the United States, and that the Federal Power Commission is without jurisdiction over the river.

[3–6] In considering the effect and weight of the factual evidence regarding the New river, it will be helpful to first state the well-established law with respect to rivers and streams, both intrastate and interstate, and whether navigable or not, and the riparian rights thereon respectively. In this case, which so directly involves state and Federal rights, it is important to steadily keep in mind our constitutional distribution of power between the state and Federal governments. The title to the beds of navigable waters within a state are vested in the state unless under its laws they belong to the riparian owners (Borax Consolidated v. Los Angeles (1935) 296 US 10, 80 L ed 9, 56 S Ct 23; Appleby v. New York (1926) 271 US 364, 70 L ed 992, 46 S Ct 569; Seattle v. Oregon & W. R. Co. (1921) 255 US 56, 63, 65 L ed 500, 41 S Ct 237; Arkansas v. Tennessee (1918) 246 US 158, 62 L ed 638, 38 S Ct 301; United States v. Cress (1917) 243 US 316, 61 L ed 746, 37 S Ct 380; Pumpelly v. Green Bay & M. Canal Co. (1872) 13 Wall. 166, 20 L ed 557), and "the right of the United States in the navigable waters within the several states is limited to the control thereof for purposes of navigation." Seattle v. Oregon & W. R. Co. *supra,* 255 US at p. 63; United States v. Oregon (1935) 295 US 1, 14, 79 L ed 1267, 55 S Ct 610; James v. Dravo Contracting Co. (1937) 302 US 134, 140, 82 L ed 155, 58 S Ct 208, 114 ALR 318. The Federal government has no property rights in navigable streams or in the waters thereof. Its only power with respect thereto flows from the interstate commerce clause of the Constitution, a necessary incident of which is the power to control and protect navigation on navigable interstate rivers and other bodies of water. Gibbons v. Ogden (1824) 9 Wheat. 1, 6 L ed 23. Within the proper scope of the interstate commerce power, the control of navigation by the Federal government is plenary; but its sphere of operation is necessarily limited to the protection of commerce which is interstate; the control over purely intrastate rivers and streams, as such, remains with the states, whether the waters are navigable or not; and it necessarily follows even an interstate stream which is not in fact navigable for purpose of interstate commerce is not subject to the control of the Federal government, except to the extent necessary to pro-

tect other navigable waters. Federal legislation with respect to navigable waters is permissible only when it has some real and substantial relation to the control of navigation. United States v. River Rouge Improv. Co. (1926) 269 US 411, 419, 70 L ed 339, 46 S Ct 144; Seattle v. Oregon & W. R. Co. *supra;* Wisconsin v. Illinois (1929) 278 US 367, 415, 73 L ed 426, 49 S Ct 163. For instance, Congress has no authority to construct a hydroelectric dam primarily and only for the development and sale of water power. Ashwander v. Tennessee Valley Authority (1936) 297 US 288, 333, 80 L ed 688, 56 S Ct 466; Alabama Power Co. v. Gulf Power Co. (1922) 283 Fed 606, 613; Little Falls Fibre Co. v. Ford & Son (1928) 249 NY 495, 507, 164 NE 558, affirmed (1930) 280 US 369, 74 L ed 483, 50 S Ct 140.

[7] Where interstate waters are capable of promoting interstate commerce to a substantial degree, they are said to be waters of the United States, a classic definition of which is given in Daniel Ball v. United States (1871) 10 Wall. 557, 19 L ed 999, 1001, as follows:

"Those rivers must be regarded as public navigable rivers in law which are navigable in fact. And they are navigable in fact when they are used, or are susceptible of being used, in their ordinary condition, as highways for commerce, over which trade and travel are or may be conducted in the customary modes of trade and travel on water. And they constitute navigable waters of the United States within the meaning of the acts of Congress, in contradistinction from the navigable waters of the states, when they form in their ordinary condition by themselves, or by uniting with other waters, a continued highway over which commerce is or may be carried on with other states or foreign countries in the customary modes in which such commerce is conducted by water."

The rule of this case has not been since departed from, but it has been interpreted and applied in many different factual situations, as a result of which it is now held that an interstate stream is navigable in fact only when it is so *used or susceptible of being used in its natural and ordinary condition* (United States v. Oregon, *supra;* United States v. Utah (1931) 283 US 64, 76, 75 L ed 844, 51 S Ct 438; United States v. Holt State Bank (1926) 270 US 49, 70 L ed 465, 46 S Ct 197; Brewer-Elliott Oil & Gas Co. v. United States (1922) 260 US 77, 86, 67 L ed 140, 43 S Ct 60); it must be capable of *valuable* public use in its natural condition (United States v. Cress, *supra*); must have a capacity for useful interstate commerce *of a substantial and permanent nature* (Leovy v. United States (1900) 177 US 621, 44 L ed 914, 20 S Ct 797, and must have capacity for *general and common usefulness* for purposes of trade and commerce (United States v. Oregon, *supra*). Only occasional or exceptional use under abnormal conditions is not sufficient (Oklahoma v. Texas (1922) 258 US 574, 591, 66 L ed 771, 42 S Ct 406; United States v. Rio Grande Dam & Irrig. Co. (1899) 174 US 690, 699, 43 L ed 1136, 19 S Ct 770); and, as this court said in United States v. Doughton (1933) 62 F(2d) 936, quoting from Harrison v. Fite (1906) 148 Fed 781: *"A theoretical or potential navigabili-*

ty, or one that is *temporary, precarious, and unprofitable,* is not sufficient."

Is New River at Radford, Virginia, a Navigable River of the United States?

A very large part of the evidence relates to this issue. Apparently counsel have exhausted the available information, documentary, historical, and personal within living recollection. The whole evidence was reviewed and summarized and discussed at length in the opinion of the trial judge who reached the conclusion that the question must be answered in the negative, and our independent examination convinces us that he reached the right conclusion. The evidence is entirely too voluminous to review it in detail, but we will state the outstanding points which have convinced us that the dam is not located in navigable waters of the United States.

Physical Characteristics of the River

A mere description of the physical and natural characteristics of the river is very persuasive that it is not susceptible of that character of navigation which is necessary, under the decisions above cited, to support the claim that it is navigable water of the United States. It is properly said to be sui generis, and is unlike many of the numerous rivers which have been described and held either navigable or nonnavigable in Supreme Court decisions which we have noted.[3] It is characteristically a mountain stream with steep gradient, relatively rapid current, and comparatively narrow stream bed, the river running in many places over limestone and sandstone, rocks, and shale, the boulders frequently jutting above the surface of the water, with alternating comparatively still pools of varying length and numerous rapids, falls, and shoals in many of which the depth of the water over the rocks is only about one foot, and frequently only a few inches. The following short general description is taken from a report by the Secretary of War to the House of Representatives in 1935 (74th Cong. House Document No. 91):

"Through almost its entire length the river flows through a rugged mountainous country. Its valley is narrow, the flood plain being very little wider than the low-water channel, which varies in width from about 200 to 1,000 feet. In many places the banks are sheer bluffs rising from the river's edge. Ledges of limestone, sandstone, and shale crossing the river at frequent intervals create rapids and waterfalls. The waterfalls vary in height up to about 18 feet. Between the ledges there are usually short pools of varying depths. The low-water depth in the channel varies from a few inches to more than 6 feet."

Among mountain streams it seems to be unique in the peculiar geologic

[3] See United States v. Montello (1874) 20 Wall. 430, 443, 22 L ed 391 (Fox river); United States v. Rio Grande Dam & Irrig. Co. *supra* (Rio Grande river); Leovy v. United States, *supra* (Red Pass); Oklahoma v. Texas, *supra* (Red river); United States v. Cress (1917) 243 US 316, 61 L ed 746, 37 S Ct 380 (Cumberland & Kentucky rivers); Economy Light & P. Co. v. United States (1921) 256 US 113, 119, 65 L ed 847, 41 S Ct 409 (DesPlaines river); United States v. Holt State Bank, *supra* (Mud lake, Minn.); United States v. Utah, *supra* (Grand, Green & Colorado rivers); United States v. Oregon, *supra* (Malheur & Harney lakes, Or.). But some comparison may be made with the Upper Columbia described in Mason Co. v. Washington Tax Commission (1937) 302 US 186, 190, 82 L ed 187, 58 S Ct 233.

formation of its rocky bed due to folds and faults in the rock strata, producing ledges running across the stream in many places. In a 35-mile stretch of the river in Giles county, Virginia (an important section in this case, as is hereinafter particularly discussed), the geologic environment is "markedly unusual" in that it has been the scene of four predominant breaks or faults; and the slope or gradient of the rocks in the river bed is very unusual in that the incline "is downward in an upstream direction rather than in a downstream direction," with the result that the water falls over the ledges almost vertically. Some of the ledges are upthrust above the surface of the water, and some are barely submerged, and this relative condition varies naturally with the depth of the water in alternate wet and dry periods. The difficulties and dangers of navigation caused thereby, both downstream and upstream, are obvious.[3a]

New river rises in northwest North Carolina near the Virginia line and flows generally northeasterly through Virginia for 125 miles. After passing Radford, Virginia, it turns generally northwestward and crosses the Virginia-West Virginia state line at a point about 160 miles below its head (the mouth of Wilson creek), and then flows north about 25 miles to the city of Hinton in West Virginia, and thence northwesterly about 65 miles to Gauley, West Virginia, where it unites with the Gauley river, and the two form the Kanawha river which continues in a northwesterly direction about 95 miles to Point Pleasant, West Virginia, where the Kanawha joins the Ohio river. The total distance from the head of the river at Wilson creek to the Kanawha river is about 252

[3a] The 35-mile section of the river referred to is a part of the 60-mile stretch between Radford, Virginia, the site of the dam in controversy, and the Virginia-West Virginia line. This section of the river is more fully described in the testimony of Professor A. L. L. Mathews, a professor of geology who has specialized in stratigraphy. "New river is what we geologists call a young stream. That is, it has not yet completely adjusted itself to the geologic environment. It has not yet cut down through its length to such level that it has a low gradient or slope. It is still in the process of cutting down vertically through these rock strata. . . . From the standpoint of the geologist, the geologic environment of New river is markedly unusual. The region has been folded and faulted—that is broken. At one time, millions of years ago, the rock strata now represented in the area were horizontal, but, due to the great earth forces exerted during the geologic ages, the rock strata were folded, twisted, and broken. So intensive has this warping and breaking of the rock been that various rock strata, which normally were at the bottom, so to speak, have been thrust up and over rock strata which ordinarily would lie uppermost. This particular area in New river has been the scene of four predominant breaks or faults. Perhaps the most unusual thing about the geologic condition in the region in point is the concentration of the folding or faulting within the relatively narrow area—that is the distance from Glenlyn upstream to the south limit of Giles county. . . . As is frequently the case with faults, faulting in this area has resulted in the tilting of the rock strata, and, due to the concentration of the faultings, the strata are largely tilted to a very steep degree. In many cases they approach the vertical. . . . In its flow, the water of New river moves along and up the slopes of successive rock strata or ledges, and frequently falls over the upper or out-cropping edges of these ledges. In many cases, the falling over of out-cropping edges is practically sheer or perpendicular. . . . In other words, this results in a river with numerous ledges of rock strata, some partly submerged, some exposed, which are substantially vertical or standing on end, and which extend across the stream at right angles to the line of flow, this condition results in a stream with numerous submerged ledges, forming shoals, rapids, and falls. . . . Generally, the out-croppings of the resistant rock strata extend at right angles across the stream. . . . the prevailing slope is downward in an upstream direction rather than in a downstream direction. . . . In the case of most streams flowing over sloping rock beds, the slope or dip is downward in a down-stream direction. Here, however, the reverse is true."

miles, and continuing to the Ohio river is 347 miles. Kanawha Falls, a precipitous rapid with a fall of 16 feet, is situated a mile or two below the junction of the New and Gauley rivers, and the head of navigation on the Kanawha is a few miles below Kanawha Falls. The physical characteristics of the Kanawha are greatly different from New river, having a gradient of only 1.25 feet per mile as compared with the average gradient of the New river of 7.1 feet per mile. The Kanawha is admittedly navigable and has been fully "canalized" by the government which some years ago maintained ten navigation dams thereon, which have now been replaced in whole or in part by four new modern navigation and power dams of concrete construction. The gradient, slope, or fall of the bed of New river is not uniform throughout its course but varies from 3 to 4 feet per mile to, at places, 31 feet per mile. The elevation above sea level at Wilson creek is 2,240 feet and at Gauley, 651 feet; at the mouth of the Kanawha the elevation is about 500 feet. The stream velocity varies at the shoals and rapids from 3 to 5 miles per hour. The pools of comparatively still water vary in length from a few hundred yards to several miles with a probable average length of less than a mile. The rapids also vary in extent and in the degree of fall. Rapids of 2,000 feet are not uncommon and there are some of much longer extent. The low-water depth in the channel varies from a few inches to more than 6 feet. After entering Virginia in Grayson county the river flows through and between spurs of the Blue Ridge mountains, parallel to the main divides of the Blue Ridge and Alleghanies; and through almost its entire length at places through rugged mountainous country. The most steep, rough, and rugged section of the river begins a few miles below Hinton and runs for approximately 45 miles in a narrow tortuous channel between high mountains where the river bed is a mass of sharp ledges and boulders and the water rushes with great velocity.

The average volume of flow of the river at Radford over a period of twenty-eight years ending September 30, 1935, was 3,211 cubic feet per second; the lowest recorded flow there was 521 second-feet on September 6, 1930, during the drought of that year. In the floods of 1878 and 1916 the flow was estimated at about 155,000 second-feet and 146,000 second-feet, respectively. At Kanawha Falls, 56-year records show an average flow of 13,000 second-feet with a maximum of 270,000 in the flood of 1878 and a minimum of 640 second-feet on August 14, 1930.

The History of New River

The history of New river affords no satisfactory evidence of the early use of the river as a highway for trade or travel,[4] although the valley of the river would have made it a convenient highway through the mountains of Virginia toward the Ohio if the river had been navigable in fact. The river was discovered in 1671 by Colonel Abram Woods, and there apparently were settlements in its valley by the middle of the eighteenth century. Early military expeditions toward the

[4] In this respect it is different from the history of the DesPlaines river found navigable in Economy Light & P. Co. v. United States, *supra*, and the Fox river in United States v. Montello, *supra*.

west apparently made no use of the river. Several exploratory trips on the river, or parts of it, were made in 1742, 1812, 1817, 1819, and 1828; but the reports thereof do not indicate that there was any navigation on the river. Some early acts of Virginia and West Virginia have been referred to, relating to proposed opening or improvement of the river, or parts of it, for navigation, but nothing substantial seems to have been done under them. The earliest recorded use of the river for any form of transportation seems to have been during the Civil War when the Confederate forces had a commissary depot some miles above the Virginia-West Virginia line and some supplies therefor were occasionally taken down the river in bateaux. There were a number of lead and iron mines situated on or near the river just above Radford, and there was coal in West Virginia. About 1872 some persons interested Congress in a plan for improving the New river for use in transportation between the two states. The implication would seem to be that the navigation of the river for this purpose did not then exist. In that year Congress authorized a survey of the New river which resulted in the so-called "mile by mile" survey which is, in our opinion, the most valuable evidence of the natural characteristics of the river.[5] Beginning in 1876 and running through 1882 Congress made various appropriations for work on the river. It was apparently contemplated that improvements should be made from Hinton up the river for 191 miles; but by reason of the very limited appropriation and the experience as to the cost of the work, the engineers very soon decided that it would be impossible to create practical and continuous navigation through this entire distance, and they therefore concentrated their work on the stretch-up-stream from Hinton for about 25 miles, and up-stream from Radford for about 30 miles. The work as originally planned was divided into three sections of the river, one known as the Lower or Greenbrier division extending up-stream from Hinton; the Middle or New river bridge division, beginning about Radford, Virginia, and extending up-stream to the lead mines in Wythe county, and the third section was known as the Upper or Lead Mines division, from the lead mines toward the head of the river. No work was done on the Lower and Middle divisions after 1882 and very little work thereafter was done on the Upper division. In all about $112,000 was expended under various annual congressional appropriations. In 1891 Colonel Craighill, who had been in general charge of the work throughout, reported to the Chief of Engineers of the War Department that the expenditure of a small balance of the appropriation for the work on the Upper division would be a useless waste of public money. It is said by the plaintiff that this was the most difficult portion to improve. The most reliable evidence in the case in our opinion with regard to the conditions of the river, and the use or absence of use thereof for navigation, is to be found in the annual reports of the district engineers in charge of the work. The whole is summarized in the report of General Taylor, Chief of Engineers

[5] See Government's Exhibit No. 31; and also the Moore and Briggs survey of 54 miles up-stream from the Greenbrier in West Virginia. Government's Exhibit No. 32.

of the War Department, to the Federal Power Commission on December 29, 1925.[6] After correctly stating the substance of the applicable law as to navigable waters of the United States, and expressing the opinion that the natural condition of New river prior to the Federal work did not show that it was navigable in fact, he continued: "It is my opinion that these natural conditions were not changed by subsequent improvements, to the extent of making the river a highway for commerce." Then, after stating the limited amount of work accomplished in the three divisions separately, he said:

"Work was limited to the most easily improved places and effort made to so ameliorate conditions as to permit local navigation. The results were not satisfactory or important and Congress discontinued appropriations after 1886, less than one-third of the funds required for any effective improvement having been provided. . . . It is evident that the work executed by the government during the years 1877 to 1882, did not materially change the natural nonnavigable conditions of the river. The improvement effected was at most slight and fragmentary, and the small channels worked over are reported to have deteriorated due to the natural action of ice and current. Continuous navigation on the river has never been possible, and whatever commerce has existed has been altogether local, apparently confined to the 25-mile section in West Virginia ending at Hinton.

"The district and division engineers have reported that there is no commerce and that the river is not now navigable in fact, but they assume that it is legally navigable for the reason that moneys have been expended on it for channel improvement by authority of Congress. It is well settled by judicial decisions that acts of Congress appropriating money for the improvement of a stream are not to be construed as declarations express or implied that the stream is actually navigable. Congress may authorize the improvement of a nonnavigable stream with a view to creating navigability, yet unless the improvement is accomplished, the natural state of the stream is not changed. Whether or not it is navigable is still a question of fact unaffected by the consideration that money has been appropriated and expended in an effort to improve it."

Opinions of War Department Engineers

The opinions of the Chief and District Engineers of the War Department familiar with the conditions on New river are entitled to much weight in this case. It is true that they are only opinions and are by no means conclusive; but they represent especially competent professional opinions on the subject matter with which they were necessarily well acquainted; and their opinions are disinterested. Reference has already been made to many opinions of different engineers touching the matter at different times, both long before the origin of the present case, and during its currency. Thus we have the deliberate opinion of General Taylor in December, 1925, after a full review of all the data then available in the War Department upon the subject, and we have his opinion later confirmed in 1930 by the then Chief

[6] Defendant's Exhibit No. 572.

of Engineers of the War Department, General Brown, and also confirmed by Colonel Tyler, Chief Engineer of the Federal Power Commission. Similar opinions have been expressed by District and Division Engineers on other occasions with regard to the river. It is very significant that the Commission found the report and opinion of General Taylor a sufficient basis for its (first) finding of nonnavigability.

Other Evidence on Navigability

[8, 9] It is not disputed that there is no appreciable use of the New river either intrastate or interstate for navigation at the present time, and there has been none for probably at least twenty-five years in the past. Probably the disappearance of all navigation of the river even locally in the vicinity of Radford and Hinton was partly influenced by the coming of the railroads and the improvement of adjacent roadways. However that may be, at the present time the river is certainly not used and is useless for any substantial or valuable navigation, but by virtue of its physical characteristics is very valuable for water-power purposes. A number of power dams have been erected on the river of which there are two a considerable distance above Radford (one about 50 miles) which were constructed without obtaining any authority from the Federal government and which have never been interfered with by it. There are also many bridges across the river. The government itself has determined to erect a very large dam and reservoir without locks or other means for navigation, for the combined purpose of flood control and power development, in the river a few miles up-stream from Hinton. Condemnation proceedings for this purpose are now pending and the government's position therein has been sustained by this court. United States v. West Virginia Power Co. (1937) 91 F(2d) 611. It is also not without significance that the plans and specifications for the Radford dam (without provision for locks) have been approved by the War Department from the standpoint of navigation, and the Federal Power Commission in tendering a license to the defendant company therein recited its finding that the construction of the dam would not be an obstruction to navigation but properly operated would be an improvement thereof. In these circumstances it is apparent that navigation on New river between Radford and Hinton is not a matter of practical moment and the question of navigation is at the most only theoretical. United States v. Doughton (1932) 62 F(2d) 936. It seems to be an entirely logical inference that if the government has heretofore maintained that the river constitutes navigable waters of the United States between these points, that view must be considered to have been abandoned by it for all practical purposes. We are not unmindful that the Supreme Court in Economy Light & P. Co. v. United States (1921) 256 US 113, 65 L ed 847, 41 S Ct 409, held that unauthorized artificial obstructions in an otherwise originally navigable river did not destroy its legal navigability; but there the court was dealing with a situation where the DesPlaines river had been in the past one of the principal highways of commerce, trade, and travel to the West for more than a century: and the intervention of the government

was under different circumstances from those here existing. The question of navigability is one of fact and each case must be determined on its own circumstances. In the present case the actions of the government in the respects just referred to at least are important evidentiary facts bearing on the question whether there is now or ever has been navigability in fact of the New river.

[10] The complaint in this case alleged that New river was navigable throughout its whole course from its source at or near the North Carolina-Virginia line through the states of Virginia and West Virginia; but this extensive claim has now been abandoned and the contention as to navigability is limited to the 115-mile stretch of the river from Allisonia in Virginia (about 30 miles up-stream from Radford) to Hinton in West Virginia. From Radford to the Virginia-West Virginia line the river is about 60 miles in length; and Hinton in West Virginia is 25 miles further down-stream. For the plaintiff to successfully maintain that New river at Radford, Virginia, constitutes navigable waters of the United States, it had the burden of proof to show that the river was a highway for substantial and permanent trade and travel of a generally useful and valuable nature between Radford and Hinton or other points in West Virginia. Upon consideration of voluminous evidence the district judge reached the conclusion that this had not been shown and our independent consideration of the evidence leads us to the same conclusion.

[11] We have not failed to carefully consider the arguments of counsel for the plaintiff in opposition to this conclusion. It is said that the opinion of the district judge (contrary to his findings of fact) shows that the stretches of the river in the somewhat improved sections up-stream from Radford and Hinton respectively were navigable in fact, and it is contended that the physical characteristics of the river in the 60-mile stretch down-stream from Radford to the state line are such that it was susceptible of navigation equally with the improved sections before their improvement. We are not persuaded that this contention on the facts is established. The evidence of the defendant's photographs of places on this section of the river and the mile-by-mile survey above referred to show the serious obstacles to navigation in this stretch of the river consisting of several difficult falls, and many long rapids and shoals. And this stretch includes the 35 miles in Giles county having markedly unusual geologic formation of the rock strata of the river bed above mentioned. It is said there was an ample volume of water, and the gradient or slope of the river was on the average not much steeper than in the sections which were improved, and that the pools were much greater in extent than the rapids. But the obstacles to navigation consisted chiefly in the falls and rapids which were numerous and long; and the slope was not uniform, but very much greater than the average in many places.[7] No Federal work was done on this 60-mile section of

[7] The mile-by-mile survey reached Radford coming down-stream at about the fortieth mile. Thereafter for illustration some of the more difficult obstacles to navigation shown in the survey in various places reads as follows:

"49th mile. Rapids and shoals (mostly over bowlders) 2,000 feet long; fall, 4 feet.

the river between Radford and the state line with the exception of less than a mile in Virginia which had no important significance in interstate navigation. As appears from their reports the engineers concentrated their limited available funds on the improvement of conditions around Radford and Hinton where there was access to railroads and where it would therefore be of some value locally. If this stretch of the river was not navigable in fact in its unimproved condition, it is not to be considered navigable merely because it might have been made navigable by improvements which were not in fact made. Of course, if the improvements had been made the question of fact might have been different.

Much reliance is also placed by plaintiff's counsel on their contention that despite any obstacles to navigation in the 60-mile stretch between Radford and the state line, there was sufficient testimony of nonexpert witnesses with regard to the use of bateaux or keelboats on the river to show that it was navigable, in fact even in this critical stretch. It appears from the engineer's reports that there was some use of keelboats on the river as early as 1873; but the extent of their operation before the beginning of the government work in 1878 is not stated, and the annual reports during the government work indicate quite clearly that their use was local in the vicinity of Hinton and Radford, respectively; and there is nothing in these reports to show navigation by keelboats between Radford and Hinton. Plaintiff's counsel say that this missing evidence is supplied by a number of aged witnesses testifying from unaided memory as to their knowledge or observation of keelboats in the river fifty to sixty years ago. The district judge discussed at length the extent of the use of keelboats on the river and summarized it as follows:

"It was in these separated stretches of the river that practically all of the bateaux navigation took place and only on them that there was any appreciable trade or commerce by boat. *It is not meant to say that continuous movement of such boats between Hinton and the vicinity of Radford was impossible or did not occur.* There is evidence which indicates that it did occur, but there is a vagueness about the extent to which it occurred and indications that *such trips were irregular, were attended with difficulty and formed no appreciable part of any commercial transportation which took*

"51st mile. Rapid, over bowlders and gravel, 1,500 feet long, fall, 8 feet.

"53rd mile. At lower end Barnitz Falls, over five ledges of limestone 450 feet, over all fall, 6 feet.

"54th mile. Shoal and rapid over bowlders and gravel 800 feet long, fall 4 feet.

"67th mile. Shoals continue for 1,600 feet; then a short pool and Walker's Mount Falls, where the river falls 5 feet in 500 feet, over two ledges of shale and metamorphic limestone.

"68th mile. Continuous ledges of 4,000 feet; fall 8 feet.

"74th mile. Snidow's Falls, 2,000 feet in length; over bowlders and gravel, fall, 5 feet.

"79th mile. Rapid over two ledges, 500 feet long; fall 7 feet; swift water whole mile.

"92nd mile. Peter's Mountain Falls, where river falls 4½ feet in 1,300 feet, over a succession of limestone ledges, terminating in an abrupt fall of 5 feet.

"100th mile. Neilley's Falls and rapids; whole fall 11 feet, 6 of it nearly vertical. A sluice 500 feet long, along left bank, will pass them, with 50 feet of rock excavation and 450 feet of bowlders and gravel.

"104th mile. Commences with shallow riffle, 600 feet long, over bowlders and gravel, and following this occurs Wiley's Falls where the river falls 4 feet in 10 feet, over a limestone ledge about 50 feet wide."

place on the river. The most definite evidence of the extent of navigation on the river are the reports of the government engineers both before and after beginning improvement of the river in 1877, and these reports repeatedly state that the commercial navigation was local to separated stretches of a stream and that there was no continuous navigation." (Italics supplied.)

[12] It is said that this conclusion did not correctly appraise the effect of the oral nonexpert testimony; and in plaintiff's reply brief there are listed the names of twenty-three such witnesses from whose testimony it is contended the contrary conclusion should have been reached. We have carefully considered this testimony, but are not convinced that it was given too little weight. This is the type of testimony that the trial judge who sees and hears the witnesses is particularly well qualified to appraise. These witnesses were for the most part elderly men who were testifying purely from unaided memory of events long past. Such testimony has inherent infirmities and is obviously not entitled to the weight to be properly given to contemporary official written records (United States v. Oregon (1935) 295 US 1, 19, 79 L ed 1267, 55 S Ct 610). It also had to be appraised in connection with similar testimony of almost an equal number of witnesses introduced by the defendant by which it was to a considerable extent contradicted or qualified; and proper consideration also had to be given to the other testimony in the case, verbal and documentary, of expert and scientific witnesses tending very strongly to show that the river was nonnavigable in fact. But even if the recollection testimony of the witnesses on both sides is viewed as a whole apart from the other evidence, we do not think that it showed interstate navigability of the river within the requirements of the judicial decisions above mentioned. Very few of these twenty-three witnesses for the plaintiff (about four or five) testified to any personal experience in keel boat trips on the river between Radford and Hinton (and from parallel testimony by defendant's witnesses several of these were not ordinary commercial trips for trade or travel); more (six or seven) related recollection of their use between Hinton and Glenlyn (the latter in Virginia about 5 miles from the state line); and the others stated that they had seen or used keel boats on one or more occasions at various points on the river within the 60-mile stretch, and some of them had hearsay information that some of the boats went as far down-stream as Hinton. Viewed as a whole, the testimony seems to us to establish nothing more than that there were some trips of keelboats between Radford and Hinton; that such trips could be made only at particular times when there was unusually high water; that even then navigation was not only difficult but also dangerous; that while the boats at times may have carried some country produce there was nothing like an established trade and commerce between Radford and points in West Virginia; and that the duration of such use of the keel boats was for a few years only and has been nonexistent for more than fifty years. Very possibly this entire disappearance of any keel boats

on the river was influenced somewhat by the coming of the railroads to Glenlyn in 1883 and to Allisonia in 1886 (there were railroads at Hinton in 1873, and at Bradford some years earlier); but there was also testimony of nonexpert witnesses submitted by the defendant to the effect that the attempt to commercially use keel boats was unsuccessful and unprofitable, and in the Radford-Allisonia district was substantially abandoned before the railroad came to Allisonia in 1886. We conclude that the summary of the testimony on this point above quoted from the opinion of the district judge is a fair appraisal of the evidence; and that the plaintiff has not shown that there was interstate navigation on New river of such a substantial and permanent nature, and of such general and common usefulness, that it would subject the river to Federal servitude for the benefit of navigation.

[13] We have also considered the weight to be properly given to the fact of the government work. In many cases such evidence may be a factor of great importance in favor of navigability; but in this case we do not think it conclusive or even very important, in view of its limited nature and abandonment. It was referred to in the reports as "experimental" and was finally abandoned as a further waste of money, on the Upper division. It did not, according to the reports, essentially change the original nonnavigable condition, and was limited to a few local stretches. In the circumstances it cannot properly be regarded as establishing navigability. Oklahoma v. Texas (1922) 258 US 574, 590, 66 L ed 771, 42 S Ct 406.

Will the Maintenance and Operation of the Dam Obstruct the Navigable Capacity of Any Down-stream Navigable Waters of the United States?

Here again the testimony bearing on this issue is voluminous consisting largely of scientific and expert opinion. It also has been reviewed at length in the opinion of the district judge who concluded that the operation of the dam in any normal, usual, and reasonable way would not substantially affect the down-stream navigability of the Kanawha or Ohio rivers; and in our opinion the weight of the evidence bearing on this issue clearly supports the finding made. Of course, the mere construction of the dam apart from its operation could have at the best only very temporary effect on the down-stream flow of water pending the filling of the storage reservoir behind the dam. It is not the plaintiff's contention that the dam must necessarily be operated in such a way as to prejudice down-stream navigability, because it is conceded in the briefs that the proper operation of the dam in accordance with the conditions of the proposed license and the rules and regulations of the Commission and the War Department would even be of benefit to navigation. The contention is that the size and capacity of the dam, in relation to the average volume of flow of the stream, is such that the only reasonable inference is that the dam will be operated in a way to impair down-stream navigability. It is pointed out that the plans for the dam provide for a draw-down area of 27 feet with hydroelectric machinery of 104,000 horsepower, and a capacity for water consumption of 9,000 cubic

feet per second; and that the average annual flow of the New river at the point of the dam is only a little more than 3,000 cubic feet per second. The capacity of the reservoir or storage pool for water behind the dam is said to be 100,000 acre-feet. It is also pointed out that this hydroelectric dam is only one link in a large electric light and power generation and distribution system of the Appalachian Company whose public service extends interstate over a distance of 100 miles or more. From these facts it is argued that the cost of the dam could be economically justified only on the assumption that it would function in the whole system to furnish power at that time of the day and week when the power demand upon the Appalachian system is at its peak, or, as it is expressed, the dam will be operated on a "peak" basis; and it is further said that this means operation in which during about eight hours of the day five days a week the power machinery will be used to its full capacity of 9,000 cubic feet per second and will discharge that amount into the river below the dam, while during the remaining hours of the day for five days a week, and probably all of Saturday and Sunday, there will be no operation of the dam for the generation of electricity, and no discharge of water into the river below the dam. The ultimate deductions made in the argument are that in the low-water seasons the consumption and discharge of water will be cut off entirely until the reservoir is filled, thus depriving the Kanawha and Ohio rivers of a material part of their water supply from New river; and when the dam is operated the alternate shutting down of the plant with no discharge of water and the release of water during the hours of operation at the rate of 9,000 cubic feet per second will cause "power waves" which will have an adverse effect upon navigation in the Kanawha by causing there fluctuations or oscillations in the stream.

The defendant denies the reasonableness of these assumptions as to the method of operation of the power dam, and very definitely says that it has no intention to so operate it, and that the assumed method would be abnormal and impracticable. It explains that the large maximum capacity for the use of 9,000 cubic feet per second flow is not designed to be used currently, but only as a potential reserve for temporary emergencies. The defendant realizes that by customary day-by-day operations it cannot use more than the average amount of the water flow, simply because the water will not be there to use; and therefore it must proportion its actual operations to the stream flow, occasionally drawing on the reservoir for the continuance of customary and usual operation, when the water flow in dry periods is abnormally low. The defendant does not deny that in its intended customary daily operation there will be a variable amount of water discharged from the dam, but it does deny that there will be such great variations as are assumed by the plaintiff; and it denies that the variable amount will have any adverse effect on downstream navigability. The defendant's stated position is that it fully realizes that it has no property right in the water as such, and is only entitled to a reasonable use thereof as riparian owner, which must be limited in such way that the rights of other riparian

owners on the stream below and above will not be prejudiced. It points out that it will have a very large monetary investment in its project and that it would be economically very unwise and indeed foolish to operate its plant in such a way that the rights of others would be impaired and the defendant subjected to damages therefor; or to operate the plant so that it would be subject to a successful injunction suit for impairment of navigable capacity of down-stream waters.

There is no reason to doubt the good faith of the defendant in its position so stated because it expressed its willingness to accept the minor-part license from the Commission containing, among other things, the condition that it as licensee should be liable for all damages occasioned by the operation of the projects; and the condition that "whenever the flow at lock No. 2, Kanawha river, falls below 1,400 second feet, the licensee shall when so directed by the Secretary of War discharge in each twenty four hours the natural flow of the river at the dam site during that period up to a discharge of 1,150 acre-feet. The discharge from the project shall at all times be regulated by such rules and regulations as the Secretary of War may prescribe to prevent undue interference with navigation on the Kanawha river."

The evidence of expert witnesses offered by the plaintiff on this issue was largely based on their assumptions as to the defendant's probable operation of the dam. The contentions in substance are that for considerable periods of time there would be no discharge of water from the dam in consequence of which the volume of water flow in the Kanawha and Ohio rivers would be seriously diminished; and the discharge of water from the dam when made would be in such large quantities as to form *block waves* of 9,000 cubic feet per second which would cause much increased velocity of current in the Kanawha and fluctuations and oscillations of the water level which would impair its navigability. These contentions are refuted in the testimony of a number of witnesses for the defendant who were competent and experienced engineers in the construction and operation of hydroelectric plants. In this connection it is to be noted that the distance on the river from the Radford dam to the head of navigation in the Kanawha is approximately 160 miles on a tortuous river course interspersed with numerous rugged ledges; and there is a recently constructed power dam at Hawks Nest on the New river a few miles up-stream from the Kanawha [8] which would naturally absorb any "power waves" from the Radford plant that remained after their 150-mile journey from Radford. In addition the government has recently constructed three large navigation and power dams on the Kanawha river known as the London, Marmet and Winfield dams, with another now under construction at Gallipolis, Ohio, equipped with locks for navigation, as a result of which the Kanawha river is fully "canalized," that is, consists of a series of pools between the dams affording approximately uniform depth of water for navigation. These dams also have large power capacity and are operated

[8] See United States v. West Virginia (1935) 295 US 463, 79 L ed 1546, 55 S Ct 789.

under lease from the government by private interests. They directly discharge water consumed by power operations into the respective pools. There is also evidence to the effect that there is an abundant supply of water from tributaries of the New river and Kanawha river below Radford to supply any loss or waste of water in the pools of the Kanawha caused by the operation of the locks or otherwise. The purpose of the navigation dams on the Kanawha is to maintain an approximately uniform level of water. In these circumstances the district judge found that it was highly improbable that any operation of the Radford dam would or could impair the navigability of the Kanawha and Ohio rivers.

There is still another factor to be considered in this connection, relating to the government's project for the Bluestone dam in the New river without locks, approximately 150 feet high. The dead storage will rise about 66 feet, with 49 additional feet of usable draft water, leaving 35 feet to be reserved for freshets and flood control. The storage capacity is to be 245,000 acre-feet, about two and one-half times greater than the Radford dam (85 miles up-stream), and the Bluestone dam is to have a maximum hydraulic capacity of about 11,000 cubic feet per second. The primary purpose of this dam is for flood control with incidental power production. It seems quite evident that this Bluestone flood control project will remove any possibility of any impairment of navigable capacity of the Kanawha from the operation of the Radford dam if the latter were otherwise possible.

It will also be recalled that in his report of December 29, 1925, to the Power Commission, General Taylor, then Chief Engineer of the War Department, after reviewing the data upon the subject, said:

"Therefore, so far as can be predicted from available data and records it would not be possible to operate the proposed project so as to adversely affect navigation on the Kanawha river under the existing project."

"I, therefore, report that in my opinion New river in its present condition is not a navigable stream and that navigation on the Kanawha river will not be adversely affected by the proposed power development."

The Commission apparently rejected General Taylor's opinion as to the effect on the Kanawha river, although it does not clearly appear what other evidence it had before it on the subject, except possibly the report as to the effect of waves from power dams on certain California rivers (which was determined to be inadmissible in the district court for lack of proof as to similarity of conditions).

[14, 15] On this and other evidence too detailed to elaborate here, the district judge found that there would be no reasonable likelihood of adverse effect on the navigability of the Kanawha or other navigable waters of the United States; and we find no sufficient reason in the case to conclude that he was wrong in this finding. On this issue the plaintiff had the burden of proof to establish its contention that the operation of the Radford dam would affect the navigable capacity of down-stream navigable waters. The leading case on this point is United States v. Rio Grande

Dam & Irrig. Co. (1899) 174 US 690, 709, 43 L ed 1136, 19 S Ct 770. The suit there was to enjoin the defendant company from constructing a dam across the Rio Grande river in New Mexico at a point where the river was not navigable, but it was alleged the maintenance of the dam would impair the capacity of the downstream river where it was navigable. The government's case was based on § 10 of the Rivers and Harbors Act of September 19, 1890 (later somewhat amended by the 1899 Act on which this present suit is based). The Supreme Court said:

"Of course, when such proceedings are instituted it becomes a question of fact whether the act sought to be enjoined is one which fairly and directly tends to obstruct (that is, interfere with or diminish) the navigable capacity of a stream. It does not follow that the courts would be justified in sustaining any proceeding by the Attorney General to restrain any appropriation of the upper waters of a navigable stream. The question always is one of fact, whether such appropriation substantially interferes with the navigable capacity within the limits where navigation is a recognized fact."

The plaintiff was not entitled to the injunction in this case unless it established an existing or presently threatened impairment of navigable capacity of the Kanawha; and where the defendant in such a case evidently in good faith denies any intention to commit an injury, the plaintiff must show that the injury sought to be avoided by the injunction will be necessarily or practically certain, and not merely the probable, result of the acts whether intended or not. Connecticut v. Massachusetts (1931) 282 US 660, 674, 75 L ed 602, 51 S Ct 286; Missouri v. Illinois (1901) 180 US 208, 248, 45 L ed 497, 21 S Ct 331; Blease v. Safety Transit Co. (1931) 50 F (2d) 852, 856; Meyer v. Somerville Water Co. (1914) 82 NJ Eq 572, 89 Atl 545; Pennsylvania Co. v. Sun Co. (1927) 290 Pa 404, 413, 138 Atl 909.

The plaintiff also contends that even if there would be no impairment of the navigable capacity of the Kanawha, nevertheless it is entitled to the injunction because there will be an impairment of interstate navigation between Glenlyn on the New river in Virginia, and Hinton in West Virginia. We are not impressed by this contention. Glenlyn is about 5 miles upstream from the Virginia-West Virginia line. In 1912 it had a population of only 500. The railroad along the river reached Glenlyn in 1883. There is no present navigation of the river between Glenlyn and Hinton and there has been none for probably twenty-five years. It is said that there was considerable keelboat navigation of the river between Glenlyn and Hinton in previous years; but we are disposed to believe from the evidence that this is an overstatement. There are serious obstacles to navigation on the river between Glenlyn and the state line, including Shumate's Falls and Wylie's Falls at or near the state line. Probably any substantial transportation on the river in earlier times was from Round Bottom, below these difficult rapids, to Hinton. The Federal improvement work never reached upstream to Glenlyn but stopped 4 or 5 miles below it. A light draft steamer built at Hinton was unable to get upstream more than about 15 miles.

In 1930 the District Engineer of the War Department reported that the New river was not navigable at Glenlyn. In these circumstances, it would not be justifiable to issue an injunction to restrain an obstruction to the purely theoretical navigation of New river between Glenlyn and Hinton, especially where there is no satisfactory proof that the operation of the defendant's dam will in fact impair even possibly existing present capacity for navigation, and where there is no likelihood of future navigable use of the river. Of course, if the defendant's dam is so operated in the future as to impair navigation, if any at that point, it may well be proper then for the courts to intervene. It is also again significant here that the government's Bluestone dam will destroy any possibility of navigation from Glenlyn to Hinton.

There is also a contention by the plaintiff that the Radford dam may in some way impair the efficiency of the Bluestone dam for flood control, and thus operate prejudicially on navigation of the lower river. The district judge considered and rejected this contention as based on insufficient evidence, and we find no good reason to reach a contrary conclusion. It would seem the Radford dam would be a help rather than a hindrance in this respect; and if not an injunction may later be appropriate.

The Effect of the Federal Power Act on the Case

While nearly all of the evidence related to the two issues above discussed, the major part of the legal argument in this case has revolved around the proper construction and application of the Federal Water Power Act of 1920, and as amended in 1935. It is contended by general and special counsel for the Power Commission that even if New river at Radford is not navigable waters of the United States, and the operation of the dam will have no adverse effect on the navigable capacity of down-stream waters, nevertheless the defendant must be enjoined from constructing the dam because it has not obtained a license from the Power Commission. It is argued that the Power Act is an exercise by Congress of a much wider jurisdiction over streams than was asserted by the Rivers and Harbors Acts of 1890 and 1899; and that in the Power Act Congress has given the Commission jurisdiction to prevent, except by its license granted on the conditions specified by the Commission, the erection of any bridge, dam, or other structure on rivers and streams, whether navigable or not, where the interests of interstate commerce are concerned, *whether they relate to navigation or not.* In connection with this view it is said in the briefs: "Thus the primary purpose of the legislation was the control of water-power development, not of navigation." This argument is based upon the language of § 23 of the Act of 1920. But before examining this contention we notice two preliminary points based on the act.

[16] In the first place, it is argued that in this proceeding the findings of the Commission with respect to navigability and the effect of the dam on navigability, and on interstate commerce, are conclusive if supported by substantial evidence, which is asserted to be the case here. It is not disputed that the case can be judicially

considered de novo, but it is said that the ordinary rule that findings of an administrative tribunal must be accepted, if supported by substantial evidence, must control the decision here on the facts. In our view this contention is not applicable to the present case. Section 23 does not provide for a "hearing" by the Commission when a declaration of intention to build a dam is filed, but only for an "investigation" by the Commission. Nor does the act provide for any judicial review of the findings made. Nor is this case a statutory proceeding by way of appeal from or review of the Commission's action. Assuming that the finding of the Commission is a relevant fact for the consideration of the court, and that it is entitled to careful and respectful consideration as the opinion of a body informed by experience, nevertheless it cannot properly be regarded as controlling judicial determination on the record in the case. Clearly the decision of the district court involved a constitutional question of the jurisdiction of the Commission in relation to the distribution of state and Federal power, and of riparian property rights of the defendant. This, we understand, is not disputed so far as the action of the district court was invoked under the Rivers and Harbors Act; and it seems equally clear that the same must be true with respect to any jurisdiction of the Commission in this case. In that view it is clear that the district judge was required to determine the question of fact de novo on the record made at the trial before him. Crowell v. Benson (1932) 285 US 22, 58, 59, 76 L ed 598, 52 S Ct 285; St. Joseph Stock Yards Co. v. United States (1936) 298 US 38, 51, 80 L ed 1033, 14 PUR(NS) 397, 56 S Ct 720; Baltimore & O. R. Co. v. United States (1936) 298 US 349, 364, 80 L ed 1209, 56 S Ct 797.

[17] It is also suggested that the defendant is estopped to question the findings of the Commission because it submitted itself to the action of the Commission in requesting a finding that the Commission was without jurisdiction and in applying for a minor-part license; but we do not think this view is tenable as the United States has in no way been prejudiced thereby, and the defendant throughout has clearly enough stated its legal position to the effect that the Commission did not have jurisdiction. There can be no proper waiver of constitutional rights in such a situation; nor do we think it was the intention of Congress that there should be. Buck v. Kuykendall, 267 US 307, 316, 317, 69 L ed 623, PUR 1925C, 483, 45 S Ct 324, 38 ALR 286; Ashwander v. Tennessee Valley Authority (1936) 297 US 288, 80 L ed 688, 56 S Ct 466; nor do we think that Standard Oil Co. v. United States (1931) 283 US 235, 75 L ed 999, 51 S Ct 429 (cited by the plaintiff), relating to the election of remedies under the Interstate Commerce Act by a shipper, is applicable here.

[18] If the public hearing granted by the Commission in 1926 and above referred to is to be regarded as a hearing in the sense of due process, and therefore the defendant is to be affected by the finding of the Commission that the interests of interstate commerce would be affected by the dam, we could hardly conclude that the finding was based on substantial evidence, in view of the fact that the

only evidence then introduced was the report and opinion of General Taylor to the contrary. At the hearing counsel for the defendant inquired whether further or other evidence was to be considered by the Commission and if so, indicated his desire to be informed of it. Nothing was then said to indicate that the Commission desired or would consider other evidence. It is now said by counsel for the Commission that it did have available, and must have considered other information upon the subject to be found in various official reports, public documents, and acts of Congress, many of which were offered in evidence by the plaintiff in this case.[9] But as these matters were not brought to the attention of the company at the hearing, it is not perceived how they could be regarded as evidence affecting it in the sense of due process. Interstate Commerce Commission v. Louisville & N. R. Co. (1913) 227 US 88, 91, 57 L ed 431, 33 S Ct 185; Morgan v. United States (1938) 304 US 1, 14, 15, 19, 82 L ed 1129, 23 PUR(NS) 339, 58 S Ct 773. For the same reasons we do not think that the subsequent declaration or finding of the Commission on October 12, 1932, can be regarded as in any way affecting the rights of the defendant, because it was made ex parte without notice or hearing. It is not meant to suggest that the Commission at any time intentionally proceeded arbitrarily, or without proper regard to the rights of the dam company, or that its proceeding was inappropriate to the "investigation" directed by the act; but only that its finding, to the extent based on information obtained informally and ex parte, and not brought out at the notified hearing where it would be subject to cross-examination and possible refutation, cannot properly be considered as consistent with due process, if sought to be made conclusive on the defendant. The reasonable assumption would seem to be that the procedure followed was adopted as appropriate to an "investigation" by the Commission, rather than a "hearing" with the legal implications thereof. See Norwegian Nitrogen Products Co. v. United States (1933) 288 US 294, 317, 77 L ed 796, 53 S Ct 350.

Attention is called to the definition of navigable waters contained in § 3 (16 USCA § 796) of the Water Power Act.[10] It is apparently not contended that the definition expands the scope of the term beyond the previous judicial decisions applying it under the Rivers and Harbors Act and in other cases (Alabama Power Co. v. Gulf Power Co. (1922) 283 Fed 606, 614); but it is said that the statutory definition has crystallized the judicial definition on three points, of which one

[9] It is also pointed out that the Commission had 21 affidavits filed by the dam company tending to support nonnavigability; and certain protests filed by individuals. These do not seem to affect the matter.

[10] "'Navigable waters' means those parts of streams or other bodies of water over which Congress has jurisdiction under its authority to regulate commerce with foreign nations and among the several states, and which either in their natural or improved condition, notwithstanding interruptions between the navigable parts of such streams or waters by falls, shallows, or rapids compelling land carriage, are used or suitable for use for the transportation of persons or property in interstate or foreign commerce, including therein all such interrupting falls, shallows, or rapids; together with such other parts of streams as shall have been authorized by Congress for improvement by the United States or shall have been recommended to Congress for such improvement after investigation under its authority."

is said to be particularly applicable here—that is, that navigability should be determined in reference to the stream in its actual condition, whether "natural or improved." The observation is then made that the district judge in his opinion apparently implied that the Federal improvements on New River were not to be considered in determining its navigability. But we do not understand the opinion to proceed on that basis.

[19–24] We come now to the Commission's present construction of § 23 of the Water Power Act of 1920 (16 USCA, § 817) which reads:

"Projects not affecting navigable waters; necessity for Federal license. Any person, association, corporation, state, or municipality intending to construct a dam or other project works across, along, over, or in any stream or part thereof, other than those defined in this chapter as navigable waters, *and over which Congress has jurisdiction under its authority to regulate commerce between foreign nations and among the several states,* may in their discretion file declaration of such intention with the Commission, whereupon the Commission shall cause immediate investigation of such proposed construction to be made, and if upon investigation it shall find that the interests of interstate or foreign commerce would be affected by such proposed construction, such person, association, corporation, state, or municipality shall not proceed with such construction until it shall have applied for and shall have received a license under the provisions of this chapter. If the Commission shall not so find, and if no public lands or reservations are affected, permission is hereby granted to construct such dam or other project works in such stream upon compliance with state laws."

We have italicized the clause on which the construction is based. The view contended for is that this clause, as a part of the whole section, gives the Commission jurisdiction over dams proposed to be constructed on *nonnavigable waters,* irrespective of the effect of the dam on navigable waters of the United States, whenever the Commission finds after investigation that "the interests of interstate or foreign commerce would be affected by such proposed construction"; that is to say, if the dam is to be constructed in a stream not a navigable water of the United States and will have no effect on navigation, nevertheless it may not be constructed without a license from the Commission if it will affect interstate commerce in some other way not related to navigation. Specific application of this construction is given to the instant case in the contention that although New river at Radford is found to be not navigable waters of the United States and the dam will not affect down-stream navigable capacity, nevertheless the Radford dam may not be constructed without a license from the Commission because (1) the river at or above Radford has years heretofore been used for keelboat transportation of goods for delivery to the railroad at Radford for carriage in interstate commerce and might possibly be similarly used hereafter, and (2) the dam is intended to transmit electric power outside of Virginia. The construction flows from the general view of the purpose of the act expressed by counsel for the Commission in their brief when they say:

"Thus the primary purpose of the legislation was the control of water-power development, not of navigation." We do not think this broad construction of the act based on the interstate commerce power, to the extent that it is dissociated from navigation, is tenable either on the basis of statutory construction or constitutional authority. Alabama Power Co. v. Gulf Power Co. *supra.*

As a Matter of Statutory Construction

It will be noted that the section leaves it *optional* with the proponent of the project to apply to the Commission for a determination. On the plaintiff's construction we have, therefore, the following possible divergent results dependent upon whether the option is exercised or not. Where the option is not exercised and the Commission is not consulted (and therefore makes no finding as to interstate commerce) the remedy of the United States is to bring an injunction proceeding to abate the dam, in which event it will be necessary for the government to show either that the river is navigable water of the United States or the dam would affect navigable capacity. But in the event the project owner elects to consult the Commission upon the subject and it finds that interstate commerce would be affected in some way not related to navigation, then the government could successfully maintain the injunction suit on the basis of the Commission's finding alone without proof of the effect of the project on navigation.

But apart from this, a reading of the Water Power Act of 1920 as a whole indicates that it was intended to assert control (where Federal property was not concerned) only where the interests of navigation, as an incident of interstate commerce, were affected.[10a] See New Jersey v. Sargent (1926) 269 US 328, 336, 70 L ed 289, 46 S Ct 122. Prior to the Water Power Act we are not aware of a successful assertion of authority by Congress over nonnavigable waters within a state (not involving public property of the United States), except where the interests of interstate commerce flowing from navigation were concerned. This was the extent of authority indicated in the Rio Grande Case (1899) 174 US 690, 43 L ed 1136, 19 S Ct 770.[10b] Over navigable waters of the United States Congress directly has jurisdiction to prevent obstructions to navigation; but over nonnavigable waters within a state, where the riparian rights are not

[10a] The title to the act reads "An act to create a Federal Power Commission; to provide for the improvement of navigation; the development of water power; the use of the public lands in relation thereto, and to repeal § 18 of the River and Harbor Appropriation Act, approved August 8, 1917, and for other purposes." Section 18 of the Act of 1917 (Chap. 49, 40 Stat. 269) repealed by the Water Power Act had created the Water Ways Commission to formulate plans to develop water resources for navigation, etc., and, among other things, to investigate "questions relating to the development, improvement, regulation, and *control of navigation as a part of interstate and foreign commerce,* including therein," etc. (Italics supplied.)

[10b] It may be noted that that case arose under § 10 of the Rivers and Harbors Act of 1890 which prohibits "the creation of any obstruction, not affirmatively authorized by law, to the navigable capacity of *any waters in respect of which the United States has jurisdiction.*" In the 1899 Act the wording was slightly changed to read "the creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity of any of the *waters of the United States* is hereby prohibited." (Italics supplied.)

owned by the government itself, the only authority or jurisdiction of Congress flows from the interstate commerce power which, with respect to rivers and streams *as such,* is limited to the protection of navigation of other streams. Beyond this Federal control over nonnavigable streams is the same as, but no greater than, over state highways on land not usable in interstate transportation.

Section 4(d) of the 1920 Act [16 USCA, § 797 (d)] authorized the Commission to issue licenses for the purpose of constructing, operating, and maintaining dams, etc., "necessary or convenient for the *development and improvement of navigation,* and for the development, transmission, and utilization of power across, along, from, or in any of the navigable waters of the United States, or upon any part of the public lands and reservations of the United States (including territories), or for the purpose of utilizing the surplus water or water power from any government dam, except as herein provided: . . . Provided, further, that no license affecting the navigable capacity of any navigable waters of the United States shall be issued until the plans of the dam or other structure affecting *navigation* have been approved by the Chief of Engineers and the Secretary of War. Whenever the contemplated improvement is, in the judgment of the Commission, desirable and justified in the public interest for the purpose of improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, a finding to that effect shall be made by the Commission and shall become a part of the records of the Commission." (Italics supplied.) [10c]

Section 11 (16 USCA, § 804) provides for the inclusion of conditions to *promote navigation* where the dam is constructed "in any of the navigable waters of the United States." Section 18 provides for the operation of navigation facilities constructed in connection with licensed dams. Apart from § 23 (16 USCA, § 817) the provisions of the act, relating to the authority over the construction of power dams, seem to be clearly based on the interstate commerce power with respect to navigation. Section 23 was added as Amendment 58 in the course of a long legislative history; and its wording and punctuation may be lacking in entire clarity, but it seems quite unlikely that in this merely permissive amendment it was the intention of Congress to confer on the Commission jurisdiction over streams in matters affecting interstate commerce but not related to navigation, especially as Congress had not previously asserted such a power.

It is contended that the 1935 Amendment to § 23 supports the construction contended for. The only change in the comparable part of the section was to make the filing of the declaration obligatory instead of optional. The wording of the clause on which the construction contended for is based was not changed. We do not attach the significance to the amendment that is claimed for it. Nor do we think it should be given a retroactive effect. It was passed after the institution of this suit and more than a

[10c] Some of the wording was changed by the 1935 Amendment, and the section became 4(e) of the new act. See 49 Stat. 840; 16 USCA § 797 (e).

year after the beginning of the construction of the dam.

The construction now put upon § 23 by counsel for the Commission seems to be much broader than that advanced in the district court. There it seems to have been limited to the contention that the Commission had jurisdicion over nonnavigable streams only where the proposed structure would affect the navigable capacity of the river down-stream, that is in this case the Kanawha. After extended consideration the district judge reached the conclusion that the effect of the section was only to provide a convenient method of determining, in advance of the construction of the dam, the status of a stream of doubtful navigability; and that the Commission had no jurisdiction over nonnavigable streams. The opinion referred at some length to the legislative history of the section when offered as Amendment 58, and also to early expressions of the Commission shortly after its first organization, in support of that view. We take a partly different view of the effect of the section with respect to nonnavigable streams.

The wording of § 23 which requires application, rather than construction, is "any stream . . . over which Congress has jurisdiction under its authority to regulate commerce between foreign nations and among the several states." It is clear that the Commission is given authority by this section only over a stream "over which Congress has jurisdiction" under the interstate commerce power. We think this modifying clause has no uncertainty of meaning in view of the legal history of the subject matter. Over what streams does Congress have jurisdiction by virtue of the interstate commerce power? Ever since Gibbons v. Ogden (1824) 9 Wheat. 1, 6 L ed 23 and Daniel Ball v. United States (1871) 10 Wall. 557, 19 L ed 999, it has been clearly understood that Congress does have such jurisdiction over interstate navigable waters; and by § 10 of the Rivers and Harbors Act of 1890 (26 Stat. 454) this jurisdiction was logically and properly extended to nonnavigable rivers which were tributaries of navigable interstate rivers to the extent that "the creation of any obstruction, not affirmatively authorized by law, to the navigable capacity of *any waters in respect of which the United States has jurisdiction*" is prohibited. In the 1899 Act (30 Stat. 1151) on the same subject the wording of the underscored [italicized] phrase was slightly changed to read "the creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity of *any of the waters of the United States* is hereby prohibited." (Italics supplied.) Section 9 of the Rivers and Harbors Act of 1899 also provided that dams and certain other structures should not be constructed in any "navigable river, or other navigable water of the United States" until the consent of Congress has been obtained and the plans approved by the Chief of Engineers and by the Secretary of War. It will thus be noted that prior to the Water Power Act of 1920 Congress had asserted jurisdiction over interstate navigable waters, and also over streams tributary thereto, to the extent mentioned, by prohibiting any structures in interstate navigable waters and in nonnavigable tributaries, if the latter affected navigable capacity

of interstate navigable waters, unless the consent of Congress was first obtained. One of the purposes of the Water Power Act was to authorize the Commission to license dams in navigable waters of the United States in lieu of an act of Congress; and in our opinion one of the purposes of § 23, which was an amendment to the original act, was to likewise take care of the case of a proposed structure in a nonnavigable tributary of an interstate navigable stream. Before the Water Power Act it was not safe to construct a dam in a nonnavigable stream, where there was any doubt whether navigable capacity of downstream waters might be affected, without an act of Congress; and § 23 was added to the act to provide a convenient administrative procedure to determine this doubt from the standpoint of the government, so that the project owner would know the position of the government in the matter. If the Commission found that interstate commerce would not be affected in the respect mentioned, then the project owner was permitted by the section to proceed without a license; but, if the Commission found otherwise, then the stated position of the government was that he could not proceed without a license and if he did so it was at the risk of being enjoined. But as the authority of the government to forbid the structure was necessarily dependent upon the fact that it would impair navigation, the government could succeed in the suit only on proof of that fact de novo, as it is a jurisdictional requisite to the power to control the use of private property without compensation.

In their briefs counsel for the Commission have now called to our attention certain earlier legislative history of the act in support of their contention that the proper construction of § 23 was to give the Commission full jurisdiction with respect to both navigable and nonnavigable streams wherever *any* interests of interstate commerce would be affected; but we are not persuaded that this earlier history tends to support that view. The Water Power Act had a long and interesting legislative history in the course of which many amendments were proposed which reflected diverse views upon the subject, and we do not think it would be a safe basis for interpretation of the final form of § 23 to impress upon it argumentative inferences from numerous former amendments.

The broad construction of the section now contended for runs counter to established legal principles. Where the interests of navigation are not involved (and where the United States does not itself possess property rights) the control of the use of the flowing water and the rights therein of riparian owners are subject to the laws of the several states. In this case under the laws of Virginia the defendant company has the full riparian rights of ownership including the right to the reasonable use of the waters flowing past its land for the development of power, and has a license from the state of Virginia to construct and operate the dam under its general act for the development of water-power resources of the state. If the river were federally navigable the rights of the riparian owners would, of course, be fully subject to the Federal servitude in the interests of navigation; but the riparian owner on a nonnavigable

stream is entitled to reasonable use of the flowing waters (not impairing down-stream navigable capacity) subject to no easement in favor of navigation; and this is a property right which cannot be taken from him without just compensation. United States v. Cress (1917) 243 US 316, 61 L ed 746, 37 S Ct 380; Carpenter v. Gold (1892) 88 Va 551, 14 SE 329; United States v. River Rouge Improv. Co. (1926) 269 US 411, 418, 70 L ed 339, 46 S Ct 144; Lynchburg v. Mitchell (1912) 114 Va 229, 76 SE 286; Holyoke Water-Power Co. v. Lyman (1873) 15 Wall. 500, 505, 506, 21 L ed 133. The power of Congress over interstate commerce is, of course, plenary, and private property may be taken for a public use in connection therewith; but only subject to the just compensation provided for in the Fifth Amendment; and to prohibit the defendant company from the exercise of its riparian rights in the case, where no interests of navigation are involved, would seem to be a taking of private property without due process required by that amendment. While Congress may impair the effectiveness of executory contracts which interfere with the exercise of the interstate commerce power, we are not aware of any authority which would justify the taking of private property without just compensation as an exercise of the regulation of commerce. Federal Radio Commission v. Nelson Bros. Bond & Mortg. Co. 289 US 266, 282, 77 L ed 1166, PUR 1933D, 465, 53 S Ct 627; Virginian R. Co. v. System Federation (1937) 300 US 515, 558, 81 L ed 789, 57 S Ct 592; Interstate Commerce Commission v. Oregon-Washington R. & Nav. Co. (1933) 288 US 14, 41, 77 L ed 588, 53 S Ct 266; Monongahela Nav. Co. v. United States (1893) 148 US 312, 336, 37 L ed 463, 13 S Ct 622.

We therefore cannot adopt the plaintiff's construction of § 23 that the Commission has jurisdiction over nonnavigable streams under the interstate commerce clause irrespective of the interests of navigation. It is argued that if the river in the vicinity of Radford is locally navigable (even though not navigable interstate) and if goods can be carried on the river there to the railroad for further carriage in interstate commerce, then Congress has the power to *regulate the river* as an instrumentality of interstate commerce. As there is no such commerce on the river, and has been none for many years, with no likelihood of any in the future, the contention seems only theoretical. But apart from this the proposition is not sound in our opinion. We know of no authority to support it, and it runs counter to the established principles above stated. If the river is not navigable interstate, its control and use (except that down-stream navigability of other waters of the United States may not be impaired), is subject to the laws of the state, and not of the Federal government. If it can be assumed that the suggested possibility of keelboat use of the river would be of sufficient importance to be worthy of regulation by Congress as a part of interstate commerce, and therefore the keelboats themselves and the rates charged by them, could be subjected to Federal regulation as in the case of the railroads, it does not follow that the use of the *river*, which is subject to state laws and control, could likewise be so

regulated. Congress could, of course, purchase or condemn the river or riparian rights thereon and convert it into a highway for or instrumentality of interstate commerce, but only upon payment of just compensation. To prohibit the use of the river for a dam or other purpose lawful under state laws, irrespective of navigation, would be taking property without compensation. Daniel Ball v. United States (1871) 10 Wall. 557, 562, 19 L ed 999, is referred to in support of the plaintiff's contention, but we do not so read it. There a vessel was held subject to the navigation laws requiring a license, because she was operated *on a navigable river of the United States* within the definition then given and always since followed. It was held no defense that she did not herself ply interstate when her carriage was of goods destined for interstate transportation in connection with railroads. So here it may be assumed that Congress could validly require the keelboats to be licensed; but that is quite a different proposition from asserting Federal control over state waters and denying the exercise of property rights thereon without compensation.

The construction now contended for by the Commission will obviously have a very important effect on the rights of the states of Virginia and West Virginia. Both states by their respective attorneys general have filed briefs as amici curiæ in opposition thereto. The question is of great importance to them because it is said that there are many nonnavigable mountain streams in the two states which, though useless for purposes of navigation, are of great value in the development of hydroelectric power; and both states years ago legislated upon the subject of water-power development.[11] The statutes of both states have provisions generally similar to the conditions in the Federal statute with respect to rates and "recapture" at the end of a 50-year license period. Both states contend that with respect to such matters they have full power and control as internal affairs of the state reserved to them under the Tenth Amendment. Reduced to simplest form, the vital question is whether the states or the national government ultimately are entitled to become the owner of these hydroelectric power plants on nonnavigable waters. Both states take the position that New river is not navigable, either in Virginia or West Virginia, and both deny that the Federal Power Commission has any constitutional authority to impose its regulatory license on the Radford dam or any other dam on the New river. In the brief for the state of Virginia the seriousness of the Commission's contention as it affects the state is stated as follows:

"The Federal Power Act, if construed as contended for by the appellant, amounts to a virtual prohibition of the development of Virginia's water powers by private investors, as well as by the state itself."

And it is further pointed out that the mere construction of the plant and the generation of electricity therein does not of itself constitute interstate commerce, but is within the local control of the state. Utah Power & Light

[11] See Michie's Code of Virginia, 1936, §§ 3581 (1 to 16); West Virginia Acts of 1915, Chap. 17.

Co. v. Pfost (1932) 286 US 165, 181, 76 L ed 1038, 52 S Ct 548.

Both states contend, as does also the defendant in this case, that whether the river is navigable or not, the conditions of the license not related to navigation cannot validly be imposed by the Commission because they relate to matters within the control of the state. The Supreme Court has not yet passed upon this question arising under this important Federal act, although it was apparently raised in two cases which have been dismissed for want of jurisdiction. United States v. West Virginia (1935) 295 US 463, 79 L ed 1546, 55 S Ct 789; New Jersey v. Sargent (1926) 269 US 328, 70 L ed 289, 46 S Ct 122.[12] As we think the district judge correctly found that New river was not navigable, it is unnecessary to determine that question here. There is no challenge in this case to the full power of the United States to impose such conditions with respect to dams erected in streams over which it has full property jurisdiction; nor is there any question in this case as to the right of a state to impose such conditions with respect to hydroelectric plants erected under its authority. Fox River Paper Co. v. Washington R. Commission (1927) 274 US 651, 71 L ed 1279, 47 S Ct 669.

With respect to federally navigable waters the regulatory authority of Congress is plenary; but with respect to nonnavigable waters, where a structure therein may prejudicially affect other navigable waters, the power of Congress is protective and preventive rather than directly regulatory; and in the latter case, as between the Federal and state governments, we are of the opinion that the Power Commission has no valid authority to impose conditions which in effect give the ultimate right of ownership of hydroelectric projects in state waters to the United States and thus take it from the state. If the United States wishes to acquire the property for a proper Federal purpose, it must pay just compensation therefor. Of course, when the electric power locally produced is transmitted in interstate commerce it comes within the proper field of control of the Federal government under the interstate commerce power, with respect to which Congress has recently very fully legislated in the Federal Power Act of August 26, 1935, 49 Stat. 853, now codified as Parts 2 and 3, §§ 824, et seq of 16 USCA.

It is apparent that the issues of law and fact in this case have taken a much wider range than the essential controversy between the Commission and the company. There is obviously no real dispute between the parties as to the construction of the dam itself as affecting navigation. The plans for the structure have been approved from the standpoint of navigation; and with respect to possible effect on navigation from operations of the dam, the company expressed its willingness to accept a license which subjected it to all proper conditions affecting navigation. Whether the company operates a dam

[12] The Water Power Act was held constitutional as an act for improvement of navigation in Alabama Power Co. v. Gulf Power Co. (1922) 283 Fed. 606; and in Missouri ex rel. and to Use of Camden v. Union Electric Light & P. Co. (1930) 42 F(2d) 692; see also Ford & Son v. Little Falls Fibre Co. (1930) 280 US 369, 74 L ed 483, 50 S Ct 140; United States v. Central Stockholders' Corp. (1930) 43 F(2d) 977.

under a license with such conditions or without a license is of no great importance with respect to the actual operation of the dam because, as a matter of law, it must be operated with due observance of the rights of other riparian owners on the stream, and also in a way that will not prejudice navigable capacity of other downstream waters; and if the company fails at any time in its duties in this respect, the government as well as other riparian owners would be clearly entitled to appropriate injunctive relief. The only dispute between the parties was as to the power of the Commission to insist on financial and economic conditions which had no relation to navigation.

[25] In these circumstances the court is asked to issue an injunction on the theory of protecting a navigation which the action of the government clearly shows needs no such protection. It appears the dam is now nearing completion. The alternative prayer of the bill is for a mandatory injunction to require the removal of the dam, which is obviously not really desired by anybody. The only practical effect of the issuance of the injunction at this time would be to force the defendant company, in lieu of removal of the dam, to accept a license with conditions as to property rights which, under the facts of the case, are properly subject to the regulatory laws of the state and not of the Federal government. The issuance of an injunction by a court of equity is an extraordinary remedy which should not be granted when, under all the circumstances of the case, it would seem inequitable to do so.

We conclude, therefore, that the judgment in this case must be

Affirmed.

PARKER, C. J., dissenting: This suit was instituted by the United States, under the provisions of the Rivers and Harbors Act and the Federal Power Act, to enjoin the erection and operation of a power dam in New river near Radford, Virginia, otherwise than under a license from the Federal Power Commission. The defendant is constructing at the site mentioned one of the 30 water-power plants in this country of exceeding 100,000 horsepower. In 1925, the New River Development Company, the predecessor of defendant, filed with the Commission "declaration of intention" to construct the dam, pursuant to § 23 of the Federal Water Power Act (16 USCA 817). In 1926, defendant, having acquired the property of the New River Development Company and taken an assignment of the "declaration of intention," applied to the Commission for a license under the act authorizing the construction of the project. In 1927, the Commission, having made an investigation, found that New river in the part involved was not "navigable waters" within the definition of the Water Power Act, but that "the interests of interstate or foreign commerce" would be affected by the construction, and thereupon tendered defendant a standard or major form license in accordance with the provisions of the act (16 USCA 803). This license defendant refused to accept. In 1930, defendant requested the Commission to reconsider its action taken in 1927 and to disclaim jurisdiction over the proposed develop-

ment or, alternatively, to issue a "minor part" license pursuant to § 10 (i) of the act. In 1931, this request of defendant was denied, a standard form license was tendered and it was ordered that defendant not proceed with construction until it should have received and accepted such license. In 1932, the Commission reëxamined the question of the navigability of New river and found it to be navigable from Wilson's creek north, which includes the site of the proposed dam.

Defendant sued the members of the Commission to enjoin the enforcement of the provisions of the Water Power Act with respect to the project, but we held that the district court was without jurisdiction to entertain that suit. Appalachian Electric Power Co. v. Smith (1933) 67 F(2d) 451. Defendant then began the construction of the dam and this suit was instituted by the United States to enjoin its construction or operation without the acceptance of the license which the Power Commission had tendered. The court below held that the New river was not navigable; that the erection and operation of the dam would not impair the navigable capacity of other waters; and that, even if the latter were not the case, no license is required under the act for the erection of a dam in waters which are not navigable. The bill of complaint was accordingly dismissed; and the United States has appealed.

There has been much argument as to the proper interpretation of the Federal Power Act as to construction of this character; but I think that the meaning of the act is clear. Prior to the passage of the act, the Rivers and Harbors Acts of 1890 and 1899, 26 Stat. 454 and 30 Stat. 1151 (33 USCA 401 et seq.) forbade the construction, without the consent of Congress, of any bridge, dam, etc., in any navigable water of the United States or the creation of any obstruction to the navigable capacity of the waters of the United States. In United States v. Rio Grande Dam & Irrig. Co. (1899) 174 US 690, 43 L ed 1136, 19 S Ct 770, it was held that the construction of a dam in a nonnavigable portion of a river which would interfere with the navigable capacity of the navigable portion was forbidden by this legislation and that for that reason the construction of such a dam would be enjoined in a suit by the United States. One of the purposes of the Federal Water Power Act of 1920, as amended by the Federal Power Act of 1935, was to clothe the Federal Power Commission with authority to grant licenses for the construction of dams which could not be constructed under existing law without the authority of Congress. As to dams in navigable waters, authority was granted by § 4(d) of the act. There still remained, however, the obstruction to navigable capacity which might arise from construction in nonnavigable streams, and which was forbidden by § 10 of the Rivers and Harbors Act; and to take care of this situation the following provision was inserted in § 23 of the Act of 1920, viz.:

"That any person, association, corporation, state, or municipality intending to construct a dam or other project works across, along, over, or in any stream or part thereof, other than those defined herein as navigable waters, and over which Congress has

jurisdiction under its authority to regulate commerce beween foreign nations and among the several states, may in their discretion file declaration of such intention with the Commission, whereupon the Commission shall cause immediate investigation of such proposed construction to be made, and if upon investigation it shall find that the interests of interstate or foreign commerce would be affected by such proposed construction, such person, association, corporation, state, or municipality shall not proceed with such construction until it shall have applied for and shall have received a license under the provisions of this chapter. If the Commission shall not so find, and if no public lands or reservations are affected, permission is hereby granted to construct such dam or other project works in such stream upon compliance with state laws."

The purpose of this was to give any person about to construct a dam or other project in a nonnavigable stream opportunity to have determined, in advance of construction, the question as to whether such project would affect the interests of interstate or foreign commerce. If so, a license would be granted, as in the case of a project constructed in navigable waters. If not, the project might be constructed without license. As the power of the United States to forbid such construction in any case arises from the power to prevent the obstruction of navigable waters which are highways of commerce, the finding that the interests of interstate or foreign commerce will or will not be affected necessarily means that the structure will or will not impair the navigable capacity of any navigable waters in such way as to affect such commerce. The impairment of a theoretical navigable capacity would not constitute a basis for requiring a license if the interests of commerce were not affected; but the interests of commerce would be affected within the meaning of the act if there were an impairment of navigable capacity which would affect commerce. The amendment of this section made by the act of 1935, instead of leaving the declaration of intention optional, requires that it be filed in all cases where the construction, while in a nonnavigable stream, will affect the interests of interstate or foreign commerce by its effect on the navigability of other waters. One proposing a construction which will have no such effect does not, of course, come within the provisions of the act.

Three questions, therefore, arise for our consideration upon the appeal: (1) whether New river at the site of the proposed construction is a navigable stream; (2) if not, whether the proposed construction will affect the navigability of waters of the United States which are navigable; and (3) whether, in either case, the requirement of the license tendered the defendant is within the power of Congress. I think that all of these questions should be answered in the affirmative.

The Navigability of New River

In considering the navigability of New river, we may disregard the portions above Allisonia, Virginia, and below Hinton, W. Va.; and, as to these portions, it may be assumed that the stream is nonnavigable. I think, however, that the 110-mile stretch ex-

tending across the Appalachian Plateau from Allisonia to Hinton is clearly shown to be navigable. The 26-mile stretch above Hinton to Wylie's Falls, Va., and the 25-mile stretch above Radford are unquestionably navigable and were so found by the court below. They were improved for purposes of navigation by the Federal government in the 1880's; and the evidence shows that they were used for purposes of navigation before as well as after these improvements were made. The intervening stretch between Wylie's Falls and Radford was not used to the same extent; but the evidence shows that substantial use was made of it and the conclusion is justified that it was not used to a greater extent because it was paralleled by a railway which furnished a more desirable means of transportation. The stretches above Hinton and above Radford were used as means of transportation to the railways at those points; but after the Cripple creek branch of the N. & W. Railway was built in the 80's paralleling the river above Radford, it took the traffic from the river, and even this stretch, which had been improved by the government, was used but little.

The river throughout this 110-mile stretch has an abundance of water. The average stream flow at the site of defendant's project a few miles above Radford is 3,211 cubic feet per second and the drainage area of the river at this point is 2,400 square miles. River vessels can navigate in water having a rate of flow of 5 or 6 miles per hour, whereas the rate of flow of this river is one mile per hour in the pool water and not exceeding the maximum of 4.4 miles per hour in the channels of the falls or rapids. It is true of the unimproved portion of the river that between Radford and Wylie's Shoals, as it is of the improved portions, that 85 per cent of the distance consists of pools of a navigable depth of several feet, whereas the rapids or shoals which account for the remainder of the distance are traversed by natural channels, having a minimum depth of approximately 2 feet even in low water. These channels have been deepened and widened in the stretches above Hinton and Radford to which we have referred. The average slope of the river is approximately 4 feet per mile throughout this entire distance and is no greater in the unimproved portion than in the portions that have been improved. There are a number of shoals; but the percentage of shoal water is no greater and the obstruction no more formidable between Radford and Wylie's Shoals than in the portions of the river which were improved and which were held navigable by the court below. So far as the natural condition of the river is concerned, therefore, I can see no difference in navigability between the portion between Radford and Wylie's Shoals and the stretches above Hinton and Radford.

There can be no question as to the substantial character of the commerce which was carried down the river over the stretches above Radford and Hinton. The boats used in this commerce were bateaux or keel boats having an average length of 60 feet, a width of 6 to 8 feet, and a draft of 2 feet, and capable of carrying a load of 20,000 to 27,000

pounds. There were 17 of these keel boats operating at one time above Hinton and 8 above Radford. Lumber and staves in large quantities were carried down the river for shipment by rail at Hinton and pig iron for shipment at Radford. Operation of steamboats was attempted, but was not successful. As to the intervening stretch, there is abundant evidence of operation of keel boats on it before the building of the railroad from Glen Lyn to Radford. The witness Anderson testified to moving his father's household goods down the river from Eggleston Springs to True in 1879. The witness Collins testified to trips with his father down the river from Radford to Hinton and of stops on the trips at the Narrows and at Crump's Bottom, also that he had seen crossties and staves brought by boat from the Narrows to Hinton, and that he had rafted timber and logs down the river. The witness Dickenson testified as to supplies being carried up the river by boat from Hinton to Shumate's Falls and thence by wagon to Glenlyn. The witness Flannagan testified that the keel boats plied up and down the river from Hinton to Allisonia. The witness Helvey testified to grain being carried by boat up the river from the horseshoe to Radford and of the use of boats in the river. The witness Hoover testified to shipping supplies by boat from Hinton to the camp of the railroad contractors at East river or Glenlyn. The witness Linkous, when a boy and living at Pepper tunnel below Radford, had seen boats going up and down the river operated by former slaves whose names he remembered. He remembered also selling eggs to the boatmen and their custom of blowing a bugle as they passed. The witness Martin who lived at Eggleston testified to working in a boat on the river and carrying it up the river to Radford and selling it. The witness Price who lived near Tom's creek when a boy saw boats going up and down the river loaded with coal, corn, wheat, crated chickens, hogs, and produce of all sorts.

The witness Skeen, a Confederate veteran, testified that while camped at the Narrows he saw boats going up and down the river, bringing provisions to the commissary at the Narrows. The witness Snidow who lived at Pembroke 6 miles below Eggleston testified to seeing the boats operating on the river during the Civil War, and of the management of the boats by a Captain Burke, and of how the boats, 4 or 6 in number, were loaded with grain and sent down the river. The witness Snodgrass who lived at Eggleston saw boats operated in the river and saw them bring supplies down the river to the railroad contractors. The witness Snyder saw boats operated between Radford, Eggleston, and the Narrows during the Civil War loaded with supplies for the soldiers. He testified also that after the War his father operated a boat, going as far down the river as Hinton. The witness Webb who lived at the Horse Show on New river saw boats going up and down the river and heard the boatmen say that they went as far as Hinton. He testified that for several years after the Civil War the barges were operated by hired hands and hauled

wheat and lumber. The witness Coleman operated a steamboat for six or seven months from Pepper's ferry to Pepper's tunnel. The witness Jones testified to bringing logs by raft or loose down the river from Narrows to Hinton. The witness Medley testified to working in bateaux in the river from Hinton to Mercer's salt works and from there to Radford, of bringing fertilizer from Glenlyn to the salt works, of bringing staves from Wylie's Island, and of moving a man's household goods up the river to Radford. The witness Owen testified to carrying the government boats which had been engaged in the river work above Radford down the river to Hinton where they were sold. The witness Peters testified to hauling tobacco by boat from Glenlyn to Hinton for shipment by rail. He also testified that he worked on the river in boats for sixteen or eighteen years, that in the spring he would go up the river to Glenlyn to get fertilizer, and that while the N. & W. R. R. was in process of construction he went up nearly every week. The witness E. M. Smith testified to working on river boats for nine years and carrying groceries and other merchandise to Glenlyn and carrying lumber, staves, tobacco, and tanbark down stream. The witness Weiss testified to the operation of one of the keel bottom boats by his brother and of his hauling staves and other things from Glenlyn to Hinton.

The foregoing testimony is not contradicted nor discredited, and I do not understand that the district judge rejected it. On the contrary he accepted it but failed to appraise it properly, saying: "It is not meant to say that continuous movement of such boats between Hinton and the vicinity of Radford was impossible or did not occur. There is evidence which indicates that it did occur, but there is a vagueness about the extent to which it occurred and indications that such trips were irregular, were attended with difficulty and formed no appreciable part of any commercial transportation which took place on the river." To my mind this testimony establishes beyond question not only the navigable capacity of the river for the purposes of useful commerce, but also that it was in fact navigated and used as a highway of commerce. That a considerable portion of the commerce was interstate in character does not admit of doubt; but, even if this were not true, the use made of the stream shows conclusively that it was capable of serving as a highway for such commerce between Allisonia and Hinton for river boats of light draft, such as were undoubtedly in regular use on the river prior to the coming of the railroads.

The fact that Congress has dealt with this portion of New river as a navigable water of the United States, while not conclusive, is a circumstance of great weight to be considered by the court. United States v. Brewer-Elliott Oil & Gas Co. (1918) 249 Fed 609, 618. And contemporaneous reports made to Congress show unquestionably the navigable character of the stream. Thus the report of Colonel, then Major, Craighill attached to the report of the Secretary of War in 1873 quotes the following from a report made in 1819 by Moore and Briggs who made a survey of the

river for 54 miles above Hinton under the auspices of the Board of Public Works of the state of Virginia:

"This is truly a noble river. Notwithstanding it was represented to us as being remarkably low, yet it afforded (July, 1819) a superabundance of water for every purpose of internal navigation. The fall in this part of the river, considering the mountainous country it passes through, is comparatively moderate. The principal falls are the Bull Falls, McCaniel's, Anderson's, Wiley's, Neilley's, and Peter's Mountain Falls —none of which have been improved in the least degree, yet we ascended them all with our boat, though in two or three instances with considerable difficulty, after taking out our baggage, stores, &c."

Colonel Craighill's report shows that keelboat traffic existed on the river at that time and recommended improvement of the channel for navigation particularly with reference to connection with the intersecting interstate railroads. He states:

"But little has been done in the way of improving the river since the time of Moore and Briggs, though an effort is said to have been made in that direction by the confederate government during the late war. Mr. Hutton states that the keel boats now used draw about 12 inches when two-thirds loaded. By the construction of slight deflectors or dams of rock and brush, both of which materials abound, the volume of the water may be concentrated and the depth over the shoals increased from the present average of about 12 inches to about 2 feet, without too much increase of velocity of current. Some of the falls, which are almost always vertical and of an average height of about 4 feet, could be greatly improved by blasting sluices through them, about 30 feet in width, and of an average length of 50 feet. It is to be observed that the falls have in many cases natural chutes or sluices through them, susceptible, also, of such improvement as that just indicated.

"What has been said above refers to a keelboat navigation, but the pressure for the improvement of this river is increased by the development of the railroads which intersect it and afford the means of rapid transport east and west for the commodities to be procured along and near the stream. There is a demand for the steam navigation."

The Hutton report attached to the report of Colonel Craighill contains a mile-by-mile description of the character of the stream from the Lead Mines to Hinton, a distance of 128 miles, and refers in the following terms to the commerce on the river and the extent of the improvement contemplated:

"The present system of transportation on this portion of the river is by keel boats which carry from two to three tons, and are rowed or floated down the river and poled up. An expenditure of $100,000 would greatly ameliorate the condition of the river for this trade, and enable the trips to be made with so much more certainty as to induce a considerable increase of trade."

The report of the chief of engineers for the year 1877 showed the existence of keel-boat traffic, and that its improvement above Radford (New

river bridge) was for the purpose of facilitating traffic connecting with the interstate railroad which crossed the river at that point. The report states:

"The first appropriation for the work was $15,000, August 14, 1876; but it was not made available until May, 1877. As this appropriation was insufficient for a general improvement, it seemed necessary to confine what should be done at present to a limited portion of the river, and to that scheme which involved the least expense, viz., for *the keel boats now in use,* it being the understanding that what is first done in the smaller improvement should be arranged with a view to its utilization and adaptation some future day, when the means provided shall suffice to enter upon the improvement of the river for light steamboats.

"It seemed also expedient that the first portions of the river treated should be in the vicinity of New river bridge, in order to facilitate communication of at least a portion of the country through which the river flows with an existing outlet east and west—the Virginia and Tennessee Railroad—which is itself in connection with the whole system of rail and water intercommunication of the country." (Italics supplied.)

The report of the chief of engineers for the year 1880 contains the following statement:

"In August, 1878, it was decided to commence work at once on the section of the river immediately above the mouth of Greenbrier, at Hinton, in West Virginia, as the indications of immediate usefulness of the improved river in that section seemed greater than in the section worked over by Captain Cuyler. The operations near Hinton were placed under the supervision of Mr. A. M. Scott, and vigorously continued until near the end of November, 1878. The work was resumed in June, 1879, under Colonel William Proctor Smith. The reports of Mr. Scott and Colonel Smith in the annual report for 1879, and hereto appended, give the detailed history of the progress made up to June 30, 1880. A steamboat has been built at Hinton and runs on the river, taking advantage of the improvement as high as it has been carried above that point, about 15 miles. The bateaux have much greater ease in navigation and can carry larger loads."

The work done by the government was in three divisions; the Lower or Greenbrier division, extending 86½ miles from Hinton to Radford, the Middle or New river bridge division extending 43 miles above Radford, and the Upper or Lead Mines division, extending for 62 miles. The last-named division was far above the section of the river with which we are dealing and was the section referred to in the Craighill report recommending abandonment of the work and quoted by the court below. The reports show that on the lower and middle divisions there was substantial traffic, which was increased as a result of the work done. The following statement is contained in a report of 1881:

"On the lower division there are thirteen keel boats and a small side-wheel steamboat, 75 feet long, 10 feet wide, and 3 feet deep, with another 100 feet long and 15 feet wide being built. Four of the keel boats run up to Shumate's Falls, 28 miles, carrying

supplies to the New and East River Railroads.

"On the middle division there are eight keel boats and parties are about to build a small tugboat and a light-draught steamboat to carry ores down to New river bridge.

"The tables following show that of the freight shipped from the stations on the Chesapeake and Ohio Railway, which are outlets to the river on the lower division, 70 per cent is from New river, an increase over 1880 of 36½ per cent.

"The shipments from the various stations on the Norfolk and Western railroads show an increase of 33 per cent. The shipments by river to New River Bridge Station began too late in December for any freight to be sent by rail."

The following is in a report of 1883:

"It has hardly been practicable to accomplish at any one of the very many points needing improvement all that has been desirable, but the worst places have been worked upon to the greatest extent, and efforts thus been made to increase the available navigability of the river over as long stretches as possible, and to increase the facilities for access of the greatest number to the railroads touching the river, and thus connecting with the eastern and western markets districts otherwise much isolated and hitherto dependent on teaming to railroad stations over long and bad roads.

"Should work be resumed, it will be found difficult to collect and organize as efficient a force as that which has been disbanded and necessarily scattered. To replace such a machine takes time and money.

"The number of large boats on the river for carrying freight has increased to twenty-five. The following important facts are taken from the report of the superintending engineer:

"Of the freight sent from Hinton in 1882, 95 per cent came from New river, an increase over 1881 of 46 per cent.

"Of the freight received at Hinton in 1882, 43 per cent went up the river; 24½ per cent increase on shipments from Hinton in 1882 over 1881; 9 per cent increase on freight received at Hinton in 1882 over 1881.

"The navigation of the river not being continuous as yet, it is practically a feeder to the railroads which cross it and run along portions of it. It has also been of much use in carrying materials and supplies to the railroads while in process of construction near it. It is probable that when the river is fully improved boats will transport one-third of the products of the fine agricultural country through which it flows, and seven-eighths of those of the mines, exclusive of coal."

To the report of the Secretary of War made in 1913 is appended a report of the district engineer who investigated the feasibility of further improvement of the river, containing the following statement:

"Above Glenlyn the river is parallel most of the way by two railroads, and there is no river commerce. From Hinton to Glenlyn, a distance of 30 miles, there is some commerce, consisting of lumber, staves, sand, gravel, and also some grain, hay, farm products, and miscellaneous merchandise. No statistics are on hand, but I am informed that the commerce at Hinton amounts to about two railroad car

loads per day, and, as Hinton is the only town on this 30-mile section, this is some measure of its amount. This estimate of two car loads a day is thought to be excessive and is believed to be true only at times. In 1883 there were about 17 keel boats in this traffic, and there are said to be 10 or 12 such boats now on the river. These keel boats, as they are called, are the popular boats for this traffic, having an average length of 60 feet, width of 6 to 8 feet, and carrying 20,000 to 27,000 pounds. Their draft is generally about 2 feet. The commerce is altogether local. During the winter season, from December 1st to April 1st, the roads are in poor condition, and the inhabitants experience difficulty in transportation of supplies. The section from Glenlyn to Hinton lies almost entirely in Summers county, and only traverses about one-half of it. Summers county had a population, at the last census, of 18,420. Probably no more than 2,000 or 3,000 people at most are in any way dependent upon this section of the river. The improvement of the river would probably cause a small increase in commerce, but not a very large one, as there is nothing to move."

In the light of this evidence I do not think that a finding of navigability can be avoided. The question is not whether modern steamboats are using or can use the river, but whether it is susceptible of use by any sort of craft used for commercial purposes. As said by the Supreme Court in United States v. Montello (1874) 20 Wall. 430, 441, 22 L ed 391:

"It would be a narrow rule to hold that in this country, unless a river was capable of being navigated by steam or sail vessels, it could not be treated as a public highway. The capability of use by the public for purposes of transportation and commerce affords the true criterion of the navigability of a river, rather than the extent and manner of that use. If it be capable in its natural state of being used for purposes of commerce, no matter in what mode the commerce may be conducted, it is navigable in fact, and becomes in law a public river or highway. Vessels of any kind that can float upon the water, whether propelled by animal power, by the wind, or by the agency of steam, are, or may become, the mode by which a vast commerce can be conducted, and it would be a mischievous rule that would exclude either in determining the navigability of a river. It is not, however, as Chief Justice Shaw said (Rowe v. Granite-Bridge Co. (38 Mass 1838) 21 Pick. 344) 'every small creek in which a fishing skiff or gunning canoe can be made to float at high water which is deemed navigable, but, in order to give it the character of a navigable stream, it must be generally and commonly useful to some purpose of trade or agriculture.'"

The fact that shoals and rapids in the river made navigation difficult and prevented the adoption of modern agencies of navigation is not conclusive of nonnavigability. The same situation confronted the court in the Montello Case, *supra,* where the court said:

"The learned judge of the court below rested his decision against the navigability of the Fox river below the De Pere rapids chiefly on the ground that there were, before the river was improved, obstructions to an unbroken

navigation. This is true, and these obstructions rendered the navigation difficult, and prevented the adoption of the modern agencies by which commerce is conducted. But with these difficulties in the way commerce was successfully carried on, for it is in proof that the products of other states and countries were taken up the river in its natural state from Green Bay to Fort Winnebago, and return cargoes of lead and furs obtained. And the customary mode by which this was done was Durham boats. As early as May, 1838, a regular line of these boats was advertised to run from Green Bay to the Wisconsin portage. Doty v. Strong, 1 Pinney (Wis.) 313, 316. But there were difficulties in the way of rapid navigation even with Durham boats, and these difficulties are recognized in the Ordinance of 1787, for not only were the 'navigable waters' declared free, but also the 'carrying-places' between them, that is, places where boats must be partially or wholly unloaded and their cargoes carried on land to a greater or less distance. Apart from this, however, the rule laid down by the district judge as a test of navigability cannot be adopted, for it would exclude many of the great rivers of the country which were so interrupted by rapids as to require artificial means to enable them to be navigated without break. Indeed, there are but few of our fresh-water rivers which did not originally present serious obstructions to an uninterrupted navigation. In some cases, like the Fox river, they may be so great while they last as to prevent the use of the best instrumentalities for carrying on commerce, but the vital and essential point is whether the natural navigation of the river is such that it affords a channel for useful commerce. If this be so the river is navigable in fact, although its navigation may be encompassed with difficulties by reason of natural barriers, such as rapids and sand-bars."

And the fact that the river has been used for purposes of commerce establishes its navigability, even though its use may have been discontinued as a result of more improved methods of transportation. What was said by the Supreme Court in Economy Light & P. Co. v. United States (1921) 256 US 113, 123, 65 L ed 847, 41 S Ct 409, is conclusive of this point. The court said:

"We concur in the opinion of the circuit court of appeals that a river having actual navigable capacity in its natural state and capable of carrying commerce among the states, is within the power of Congress to preserve for purposes of future transportation, even though it be not at present used for such commerce, and be incapable of such use according to present methods, either by reason of changed conditions or because of artificial obstructions. And we agree that the provisions of § 9 of the Act of 1899 (30 Stat. 1151, Chap. 425, Comp. Stat. § 9971, 9 Fed. Stat. Anno. (2d) 81) apply to such a stream. The act in terms applies to '*any* navigable river, or other navigable water of the United States'; and, without doing violence to its manifest purpose, we cannot limit its prohibition to such navigable waters as were, at the time of its passage, or now are, actually open for use. The Desplaines river, after being of practical service as a highway of commerce for a century and a half, fell

into disuse, partly through changes in the course of trade or methods of navigation, or changes in its own condition, partly as the result of artificial obstructions. In consequence, it has been out of use for a hundred years; but a hundred years is a brief space in the life of a nation; improvements in the methods of water transportation or increased cost in other methods of transportation may restore the usefulness of this stream; since it is a natural interstate waterway, it is within the power of Congress to improve it at the public expense; and it is not difficult to believe that many other streams are in like condition and require only the exertion of Federal control to make them again important avenues of commerce among the states. If they are to be abandoned, it is for Congress, not the courts, so to declare. The policy of Congress is clearly evidenced in the Act of 1899, and, in the present case at least, nothing remains but to give effect to it."

Certainly the New river between Allisonia, Va., and Hinton, W. Va., is as clearly navigable as was the Fox river held navigable in The Montello Case, *supra,* or the Desplaines river held navigable in Economy Light & P. Co. v. United States, *supra,* or the sections of the Green, Grand, and Colorado rivers, held navigable in United States v. Utah (1931) 283 US 64, 75 L ed 844, 51 S Ct 438, or the Tennessee river at the site of the Wilson dam, held navigable in Ashwander v. Tennessee Valley Authority (1936) 297 US 288, 328, 80 L ed 688, 56 S Ct 466. In the case last cited the court adverted to obstructions at various points because of "shoals, reefs, and rapids" and to the fact that in its present condition the river was not adequately improved for commercial navigation and the traffic on it was small, but held it navigable nevertheless. Little light is thrown on the case by the decisions in Leovy v. United States (1900) 177 US 621, 44 L ed 914, 20 S Ct 797, or United States v. Doughton (1933) 62 F(2d) 936. In the first of these cases, the Supreme Court dealt with Red Pass, a crevasse caused by the overflow of water from the Mississippi, upon which no commerce of any sort had ever been conducted. In the second, this court dealt with Wilkerson's creek as to which the same situation existed.

But there is another and equally valid reason why the New river must be held a navigable water of the United States at the site of the proposed dam. Whatever may be found as to other portions of the river, there can be no question that the dam is located on a portion which is navigable, which has been improved for navigation by the Federal government, and which has been used as a highway for interstate commerce through connection with the interstate railway which crosses the river at Radford. Whether this navigable stretch of the river extends into another state or not, therefore, it furnishes in connection with the railroad a highway of interstate commerce, has been used for that purpose, and is a water of the United States subject to the control of Congress for that reason. In the Daniel Ball Case (1871) 10 Wall. 557, 19 L ed 999, the navigation laws were applied to a steamboat operating on the Grand river entirely within the state of Michigan. It was contended that

the vessel was not subject to the navigation laws even though operated upon a navigable river of the United States, because she did not carry merchandise beyond the boundaries of the state and was not operated in connection with any line of vessels or railway. It was held, however, that the vessel was subject to the control of Congress, because the articles that she carried were moving in an interstate journey. The court said:

"In this case it is admitted that the steamer was engaged in shipping and transporting down Grand river, goods destined and marked for other states than Michigan, and in receiving and transporting up the river goods brought within the state from without its limits; but inasmuch as her agency in the transportation was entirely within the limits of the state, and she did not run in connection with, or in continuation of, any line of vessels or railway leading to other states, it is contended that she was engaged entirely in domestic commerce. But this conclusion does not follow. So far as she was employed in transporting goods destined for other states, or goods brought from without the limits of Michigan and destined to places within that state, she was engaged in commerce between the states, and however limited that commerce may have been, she was, so far as it went, subject to the legislation of Congress. She was employed as an instrument of that commerce; for whenever a commodity has begun to move as an article of trade from one state to another, commerce in that commodity between the states has commenced. The fact that several different and independent agencies are employed in transporting the commodity, some acting entirely in one state, and some acting through two or more states, does in no respect affect the character of the transaction. To the extent in which each agency acts in that transportation, it is subject to the regulation of Congress."

It is the movement of commerce interstate which makes the commerce clause of the Constitution applicable. Any instrumentality of such commerce is subject to the control of Congress; and a body of water, even though entirely within the limits of a state, falls within the principle if interstate commerce moves over it. Here the stretch of the river for 25 miles above Radford furnished a highway for such commerce. Congress recognized the fact and expended money in its improvement. And Congress has done nothing to surrender the control which it thus saw fit to exercise.

I am familiar with the statement of the rule as to navigability which contains the expression that "they constitute navigable waters of the United States . . . when they form in their ordinary condition by themselves, or by uniting with other waters, a continued highway over which commerce is or may be carried on with other states or foreign countries in the customary modes in which such commerce is conducted by water." I do not think, however, that this statement was intended to limit the power of Congress over a stream which is in fact a highway of interstate commerce moving partly by rail. There can be no question as to the power of Congress over an intrastate railroad over which interstate commerce moves. Colorado v. United States (1926) 271 US 153, 70 L ed 878, 46

S Ct 452. And there can be no difference in principle with respect to a stretch of water wholly within a state which serves as a highway for interstate commerce. A different question would be presented if an intrastate stretch of water capable of use in interstate commerce had never been used for that purpose. Here, however, the waterway has been used in connection with a railway as a highway of interstate commerce and to that end has been improved by Congress through expenditure of moneys of the United States.

The Effect of Navigation

The power project of defendant is one of the larger projects of the country. The dam is 110 feet high, with a draw down of 27 feet, and the machinery has capacity for utilizing a flow of 9,000 cubic feet of water per second, or approximately three times the average flow of the stream. Peak load or near peak load operation is contemplated, i. e., the water will be permitted to flow through the turbines for only a part of each twenty-four hours to take care of the higher demand for electricity which exists for only part of the day. This necessarily means that the flow of the stream will be almost entirely shut off for a portion of the day and the volume of water released will be greatly in excess of normal stream flow while the turbines are operating. This will cause waves in the stream below the dam which will persist far down the river and will even cause the rise and fall of the Kanawha at the head of navigation on that river. In dry weather when the flow is low, it will be possible to shut off the stream flow for long periods and affect the navigability to a marked degree.

The question as to whether the operation of the dam will affect the navigable capacity of an interstate stream, disregarding the navigable capacity at the dam site, is easily disposed of if regard be had to the interstate stretch of the river between Glenlyn, Va., of Wylie's Falls, Va., and Hinton, W. Va. That this stretch of the river is navigable does not seem to me to admit of doubt. Millions of feet of lumber and staves were transported over it, and it was improved by the Federal government. The improvement extended from Hinton, W. Va., to beyond the Virginia line at Wylie's Falls. That there was commerce on the river as far up as Glenlyn is proven beyond all reasonable doubt and is referred to in the government reports. Whatever may be the effect of the operation of the dam on the Kanawha, there can be no question that it will affect the navigability of New river from Glenlyn to Hinton. Counsel for defendant admit this but contend that the stretch of the river is not navigable. As stated, however, I think that the showing as to its navigability is beyond question.

And I think that we must consider the effect which the operation of the dam might have upon the navigability of the Kanawha. It is said that this need not be considered because of the rectifying effects of the dams farther down stream and of the Bluestone flood control project, the construction of which is virtually assured. The power of Congress to control the construction of a dam which may affect the navigation of a stream is not affected by the existence of dams lower

down stream, for these might be removed. The servitude in the interest of navigation must be determined by consideration of the stream in its natural condition. United States v. Cress (1917) 243 US 316, 61 L ed 746, 37 S Ct 380. A corollary of this is that the power of Congress to control stream flow of navigable streams is not impaired as the result of construction which may render the exercise of the power unnecessary. It is argued, also, that it would not be wise from the standpoint of its own interests for defendant to operate its dam in such way as to interfere with the navigable capacity of the streams below; but the fact that the structure is of such character that it is capable of being operated so as to affect navigation brings it within the regulatory power of Congress. It is clear that, in such case, the government need not depend upon the wisdom or public spirit of private persons to protect the interests of navigation but may itself take action which will guarantee their protection.

But more important than any of the other effects which the construction and operation of the dam will have on the navigability of navigable waters is the effect that it will have upon navigation in the Ohio river as a result of effecting means of controlling flood waters in the Kanawha. One of the most important enterprises of the Federal government is flood control in the Ohio. While this is important from the standpoint of protecting navigation in the Ohio, and while Federal power in the premises is based upon this consideration, its importance to the people of the United States far transcends the mere matter of navigation in view of the tremendous loss of life and property which these floods entail. To adequately control the floods, the Federal government must provide for flood control in the various tributaries of the Ohio; and control is nowhere more important than in the New and Kanawha rivers, which pour into the Ohio waters from a large portion of the mountainous section of Virginia and West Virginia. It appears from the record that the New river furnishes at ordinary times nearly one-fourth of the stream flow of the Ohio below the mouth of the Kanawha; and, in rainy season flood waters from the mountains pour down New river through the Kanawha and into the Ohio in tremendous volume. To aid in the control of these flood waters, dams in the New river are imperative; and the Bluestone project near Hinton is being undertaken primarily as a means of flood control. Other dams above Bluestone, if properly constructed and operated, will aid in flood control and will affect navigation in the Ohio in that way.

It is argued that the dam of defendant can be of aid in flood control, and this is no doubt true; but the argument concedes that the construction and operation of the dam will affect navigation since it will affect flood control. Whether the effect will be favorable or not depends upon how the dam is operated. In the operation of flood control dams, the object is to keep the pond as low as possible at all times so as to provide readily available storage for flood waters when they come. In the operation of power dams, the object is to keep the pond as nearly full as possible at all times so as

to have maximum power available. It is clear, therefore, that the construction and operation of power dams can vitally affect flood control in the river; and that, when the construction of such dams is permitted in a river where flood control is as important as it is in New river, they should be subject to the control of the Federal government so that they can be operated in connection with the purely flood control dams, as a unitary system.

The Power of Congress to Require the License

In the Power Act, Congress substituted administrative for direct legislative and judicial control, i. e., instead of forbidding absolutely the construction of dams in navigable waters or dams which would affect the navigable capacity of navigable waters, it set up an administrative tribunal and authorized it to license the construction of such dams when found to be in the public interest. There can be no question as to the power of Congress to prohibit absolutely the construction or operation of dams which will interfere with navigation in a navigable stream whether the dam itself be located in a stream which is navigable or nonnavigable. United States v. Rio Grande Dam & Irrig. Co. (1899) 174 US 690, 43 L ed 1136, 19 S Ct 770. The existence of private rights is no more an impediment to the exercise of Federal power in the one case than in the other; for, in either case, private rights are held subject to the paramount power of Congress to protect the public interest in interstate commerce, by forbidding any construction that would interfere therewith. Nor does this involve infringement of the rights of the states protected by the Tenth Amendment to the Constitution. As said by the Supreme Court in the Rio Grande Case, *supra,* at pp. 703, 708, of 174 US, where rights were asserted under a law of New Mexico to divert waters of the Rio Grande in the nonnavigable section of the river:

"Although this power of changing the common-law rule as to streams within its dominion undoubtedly belongs in each state, yet two limitations must be recognized: . . . Second, that it is limited by the superior power of the general government to secure the uninterrupted navigability of all navigable streams within the limits of the United States. In other words, the jurisdiction of the general government over interstate commerce and its natural highways vests in that government the right to take all needed measures to preserve the navigability of the navigable water courses of the country even against any state action. . . .

"It is urged that the true construction of this act limits its applicability to obstructions in the navigable portion of a navigable stream, and that as it appears that although the Rio Grande may be navigable for a certain distance above its mouth, it is not navigable in the territory of New Mexico, this statute has no applicability. The language is general, and must be given full scope. It is not a prohibition of any obstruction to the navigation, but any obstruction to the navigable capacity, and anything, wherever done or however done, within the limits of the jurisdiction of the United States which tends to destroy the navigable capacity of one of the navigable wa-

ters of the United States, is within the terms of the prohibition. Evidently Congress, perceiving that the time had come when the growing interests of commerce required that the navigable waters of the United States should be subjected to the direct control of the national government, and that nothing should be done by any state tending to destroy that navigability without the explicit assent of the national government, enacted the statute in question. And it would be to improperly ignore the scope of this language to limit it to the acts done within the very limits of navigation of a navigable stream."

But the power of Congress is not limited to prohibition of obstructions to interstate commerce. Possessing full power of control in the premises, it may intrust to an administrative agency the regulation and licensing of structures which it has the power to prohibit. And I see no objection to exacting as a condition of the licenses granted a requirement as to the rates to be charged for electric power to be manufactured by the licensees or an option on the part of the government to purchase either at cost or market value. The water power of the streams of the country is one of the most valuable of the natural resources of the people. It does not belong as a matter of private right to the owners of power sites, but can be enjoyed by them only if the government consents to the obstruction or interference with the streams involved in the erection of dams. It is but fitting that the government, which holds its power for the benefit of the whole people, prescribe as a condition of its consent to the erection of such dams that the people shall derive a benefit from the concessions granted, to the extent of being accorded reasonable rates upon the product of the enterprise. And, since no one can foresee the future, or prophesy to what extent such obstructions may become undesirable from the standpoint of the public interest, it is proper that the license for their maintenance be limited and that provision be made for their purchase by the public. The exaction of the right on the part of the government to acquire the project upon the terms contained in the license is in no sense a denial of due process, but is the price exacted by the government for the granting of a permission which it has the right to withhold. Fox River Paper Co. v. Wisconsin R. Commission (1927) 274 US 651, 71 L ed 1279, 47 S Ct 669. Nor is it any objection that ownership by the government of the power project may result from such acquisition. If the government may build a power project itself in connection with regulating the navigability of streams, as held in Ashwander v. Tennessee Valley Authority (1936) 297 US 288, 80 L ed 688, 56 S Ct 466, there can be no objection to its licensing another to build the project with a view of subsequent acquisition by the government.

If the stream at the dam site be held navigable, there can be no question as to the power of Congress to construct a dam and power project there in aid of navigation. Ashwander v. Tennessee Valley Authority, *supra*. And it is equally clear that, even if it be nonnavigable, it may construct such dam and power project for purposes of flood control in streams below. United States v. West Virginia Pow-

er Co. (1937) 91 F(2d) 611. What the government may thus do itself, it may license a private corporation to do upon such terms and conditions as, in the opinion of Congress, the public interest may require.

Much has been said about the effect of the findings of the Federal Power Commission, but I do not think it necessary to go into this. Assuming that the questions thus raised are jurisdictional and go to the constitutional validity of the action of the Commission, so that they are subject to full review under the doctrine of Crowell v. Benson (1932) 285 US 22, 76 L ed 598, 52 S Ct 285, I think that the record before the court below fully justifies the Commission's action and that the injunction prayed by the government should be awarded. As a practical matter, this does not mean, of course, that the defendant will be enjoined from constructing or operating the dam, but merely that, as a condition of such construction and operation, it be required to accept the license tendered by the Commission.

There are certain facts in this case which cannot be overlooked. Defendant is constructing one of the thirty largest power dams in the United States, and is constructing it at a place where the river unquestionably has been used as a highway of interstate commerce and has been improved for that purpose by the expenditure of Federal funds. The river at the site of the dam has been found a navigable water of the United States by a commission appointed by Congress to deal with such matters and acting under oath in the discharge of a public duty. Even if the river be held nonnavigable at the site of the dam, there can be no question but that the operation of the dam will affect the navigability of the stream between Glenlyn, Va., and Hinton, W. Va., which is navigable within any test which the Supreme Court has proscribed. And, in addition to all this, the construction of dams in New river will vitally affect flood control in the Ohio and thereby affect navigation in that great highway of commerce. Under such circumstances, I cannot agree that the Federal government is without power to require a license of defendant as a condition of the construction of the dam, or that the government must await actual interference with existing commerce before taking action.

WEST VIRGINIA PUBLIC SERVICE COMMISSION

Re Lucy Myers

[Case No. 458.]

Monopoly and competition, § 104 — Necessary findings — Motor carriers.

The Commission cannot grant a certificate to an applicant unless it finds

that public convenience and necessity require such service, that existing service in the same territory is inadequate, unreasonable, and inefficient, and that the existing carriers have had a reasonable opportunity to remedy such inadequacy and inefficiency but have failed to do so.

[September 20, 1939.]

APPLICATION *for permit to operate a motor vehicle in taxi service; denied.*

APPEARANCES: Lafe B. Chafin, Williamson, for Lucy Myers, applicant; Harry W. Hill, Williamson, for Burl Vernatter and other taxicab drivers in the city of Williamson, protestants.

By the COMMISSION: On the 21st day of July, 1939, Lucy Myers filed her application for a certificate of convenience and necessity to operate a motor vehicle in taxicab service from a stand at Chattaroy, Mingo county, West Virginia. The Commission's order of that date required the applicant to publish notice of the filing of said application and hearing thereon in a newspaper of general circulation in the county of Mingo at least one week prior to the 7th day of August, 1939. This was done. The applicant was also required to serve a copy of that order upon each taxicab operator in Chattaroy and Williamson at least one week prior to the 7th day of August, 1939. The record shows that service was made upon "taxi operators operating between Chattaroy and Williamson, West Virginia, on the 24th day of July, 1939," as follows: "D. Vertuca, Gordan Smith, Jack Otten, Lum Otten, Logan-Williamson Bus Company, Nickels Bus Lines, Tom Dabney, Burl Vernatter, J. B. Fife, Okey Evans, Sam Parsley, Geo. Vernatter."

At the hearing on the 7th day of August, 1939, Burl Vernatter, on behalf of himself and eleven other taxicab operators holding certificates of convenience and necessity or rights to perform taxicab service in the city of Williamson, Mingo county, and vicinity, filed a written, verified protest to the granting of a certificate of convenience and necessity to the applicant herein, in which he denied that public convenience and necessity require additional motor vehicle transportation service in the unincorporated village of Chattaroy in Mingo county, and alleged that the existing transportation facilities and services available and in operation for the residents of Chattaroy are adequate and are efficiently maintained and performed by those agencies and companies and persons now operating in that community. Letters were received from Elmer Ferrell, clerk of the county court of Mingo county, W. E. Burchett, sheriff of Mingo county, and O. C. Van Camp, assistant prosecuting attorney, requesting the Commission to give favorable consideration to Mrs. Myers' application. Of course, such letters cannot be considered as evidence.

The testimony discloses that Mrs. Lucy Myers and her husband, W. A. Myers, are steadily employed in a store owned by the latter in Chattaroy, and if a certificate is granted to the

applicant herein the taxicab will be operated by her brother who is now unemployed. The applicant did not testify. Her husband was the only witness in her behalf. No one, other than Mr. Myers, testified that the traveling public in and around Chattaroy and Williamson needed additional taxicab facilities. His testimony was sketchy and not very helpful. Assuming, under the circumstances, that the testimony of W. A. Myers shows that public convenience and necessity require the issuance of a certificate in this proceeding, it is doubtful that the Commission should, in view of the protests, grant a certificate upon the uncorroborated testimony of one witness as interested in the outcome of this proceeding as Mr. Myers is.

The Scott-Nickels Bus Lines operates busses on an hourly schedule between Williamson and Chattaroy. The Norfolk and Western Railway Company operates one passenger train in each direction daily. The Logan-Williamson Bus Company also operates busses through these two points. There are many taxicabs operating between Williamson and Chattaroy. Tom Dabney and Basil Smith operate taxicabs in Chattaroy, but it is not clear that they, or either of them, operate from a taxicab stand located there. The protestant Burl Vernatter operates five taxicabs under the name of City Taxi. Burl Vernatter and other taxicab operators in their protest allege that no additional taxicab facilities are needed in Chattaroy. Burl Vernatter testified to this.

Subsection (b) of § 5 of Art. 2 of the West Virginia Motor Carrier Law places the burden of proof squarely upon the applicant for a certificate, stating that "in establishing that public convenience and necessity do exist the burden of proof shall be upon the applicant." She failed to carry this burden. There is not sufficient proof to justify the issuance of a certificate herein over objection and contrary testimony. The Commission in proceedings involving the issuance of certificates of convenience and necessity does not have as free a rein as it has in some other proceedings. The legislature in delegating jurisdiction over motor carriers to the Commission (§ 5, Art. 2, *supra*) specifically limits our powers and duties in this regard, stating: "Before granting a certicate to a common carrier by motor vehicle the Commission shall take into consideration existing transportation facilities in the territory for which a certificate is sought and in case it finds from the evidence that the service furnished by existing transportation facilities is reasonably efficient and adequate, the Commission shall not grant such certificate." The evidence does not disclose that the existing transportation facilities are not reasonable, efficient, and adequate, therefore, by virtue of the legislative mandate, we cannot grant the applicant a certificate. However, should it develop that neither Tom Dabney nor Basil Smith operates from a taxicab stand in Chattaroy, the picture might change. But even though the evidence did disclose that existing transportation facilities are unreasonable, inefficient, and inadequate, and we should be of the opinion that this is so, the legislature has decreed further that "if the Commission shall be of the opinion that the service

rendered by any common carrier holding a certificate of convenience and necessity over any route or routes in this state is in any respect inadequate or insufficient to meet the public needs, such certificate holder shall be given a reasonable time and opportunity to remedy such inadequacy and insufficiency before any certificate shall be granted to an applicant proposing to operate over such route or routes as a common carrier." Scott-Nickels Bus Lines has a certificate to operate between Chattaroy and Williamson on a regular route. So has the Logan-Williamson Bus Company. If additional regular route service is required, these motor carriers must be given time and opportunity to supply it. The protestant, Burl Vernatter, has rights to operate a taxicab in this neighborhood. There are other taxicab operators there also, including Tom Dabney and Basil Smith. All these, if we understand the statute, must be given time and opportunity to remedy any inadequacy or insufficiency of taxicab service that may exist before a certificate can be granted to another.

We find that the applicant on this record has not proved that public convenience and necessity require the taxicab service she desires to perform. We further find that the service furnished by existing transportation facilities is reasonably efficient and adequate to meet the needs and demands of the public in and around Chattaroy and Williamson; provided Tom Dabney and Basil Smith, or either of them, operate from a taxicab stand at Chattaroy.

An order will be entered dismissing the application for the reasons herein stated, but in the event there is no taxicab operator operating from a taxicab stand in Chattaroy the applicant may renew her application.

MONTANA BOARD OF RAILROAD COMMISSIONERS

Re Scott Water Plant

[Docket No. 3057, Report & Order No. 1747.]

Return, § 115 — Water utility.

1. A return of 10.36 per cent for a water utility was held to be excessive, and rates were established to produce a return of about 6 per cent, p. 125.

Return, § 9 — Right to earn — Fair value basis.

2. A utility is entitled to earn a fair and reasonable return on the present value of its property used and useful in the public service, p. 125.

Rates, § 120 — Reasonableness.

3. A water consumer need pay only a reasonable rate, p. 125.

RE SCOTT WATER PLANT

Service, § 117 — Adequacy.

4. A utility obligates itself to render to its patrons good and reasonable service because of rates charged for such service, p. 126.

[September 27, 1939.]

INVESTIGATION *of water rates and service; rates reduced and improvement of facilities ordered.*

APPEARANCES: Vard Smith and Vilroy Miller, Attorneys, Livingston, for the Scott Water Plant; Mrs. Adelaide Scott, owner of the Scott Water Plant, Gardiner; Ray Bishop, Lester Spangelo, Ed Travaskas, Clarence E. Scoyin, Roy Richey, W. J. Mozley, and Mrs. Frank Dallin, all citizens of Gardiner; C. O. Lauer, Gardiner.

By the COMMISSION: Heretofore upon proper notice to all parties concerned this Commission held a public hearing at Gardiner, Montana, July 21, 1939, with the view of investigating the water rates and service of the Scott Water Plant.

At the hearing evidence was introduced both by the utility and by the consumers of the said utility. The evidence in this case shows beyond any question of doubt that the present value of the utility's property, used and useful in the public service, is $9,337. The evidence shows that the income and expenses of this utility for the year ending December 31, 1938, is as follows:

Income		$2,221.30
Expenses:		
Taxes	$ 48.00	
Incidentals	102.00	
Allowance for depreciation	204.00	
Allowance for labor	900.00	
Total expenses		1,254.00
Net operating revenues		$967.30

[1–3] It is apparent from the evidence that the income and expenses just given for the year ending December 31, 1938, is typical of the income and expenses of the utility in previous years. It is obvious that since the valuation of the utility's property as heretofore set forth is $9,337, that the rate of return for the utility is 10.36 per cent, which we believe to be excessive.

We have heretofore held that a utility is entitled to earn a fair and reasonable return on the present value of its property used and useful in the public service. Re Citizens Gas Co. (1938) 31 MUR —, 26 PUR(NS) 465; Re Billings (1938) 31 MUR —, 23 PUR(NS) 442; Re Horning (1938) 31 MUR —, 26 PUR(NS) 462; Miles City v. Montana-Dakota Utilities Co. (1938) 31 MUR —, 26 PUR(NS) 358, *ante;* Consumers v. Saltese Electric Light & Water Co. (1938) 31 MUR —, 26 PUR (NS) 333; Customers v. Kevin Gas Distributing Co. (1938) 31 MUR —, 26 PUR (NS) 327; Re Big Horn Oil & Gas Develop. Co. (1938) 31 MUR —, 27 PUR(NS) 41; Re Great Northern Utilities Co. (1938) 31 MUR —, 26 PUR(NS) 393, *ante.* See also Great Northern Utilities Co. v. Public Service Commission, 88 Mont 180, PUR1930E, 134, 293 Pac 294. And we have heretofore held that a water

consumer need only pay a reasonable rate. Re Billings, *supra*.

This utility has fifty-five customers. The pipes of the utility and mains are embedded in soil which is excellent for preservation, and because of the excellent condition of the property of the utility, including pipes and mains as testified to by our engineer, we believe that a figure of 3.78 of the value of the depreciable property is fair. Based on this current appraisal we believe that the sum of $204 per year is a fair allowance for depreciation for this utility at the present time.

Taking all of the facts into consideration in this case, we believe that the following rates would render to this utility a return of no less than 6 per cent on the fair and reasonable return upon the present value of its property as heretofore set forth, used and useful in the public service. [Schedule omitted.]

The evidence in this case shows that the water service rendered by the utility is not adequate. It appears from the evidence that this utility could give adequate water service to its customers by installing at least a 30,000 gallon storage tank, and, in our opinion, this storage tank should be installed by the utility no later than May 1, 1940.

[4] It must always be remembered that a utility obligates itself to render to its patrons good and reasonable service because of rates charged its patrons for said service. Under the facts in this case and in accordance with the foregoing principle, we believe it essential that the said water storage tank be constructed and installed by the utility within the time herein specified.

An appropriate order will be entered.

MONTANA BOARD OF RAILROAD COMMISSIONERS

Re Gardiner Electric Light & Water Company

[Docket No. 3058, Report & Order No. 1748.]

Service, § 475 — Water — Fire protection — Mains.

1. A utility holding itself out to serve water in case of fire thereby obligates itself to install and maintain proper size mains to carry a sufficient supply of water in case of fire, p. 127.

Service, § 299 — Duty to maintain fire hydrants.

2. A fire department rather than a water utility is responsible for any damage that may accrue to fire hydrants by third parties, where the hydrants are owned by the fire department, p. 127.

[September 27, 1939.]

RE GARDINER ELECTRIC LIGHT & WATER CO.

INVESTIGATION *of rates and service of a water company; installation of additional facilities ordered.*

APPEARANCES: Vard Smith and Vilroy Miller, Attorneys, Livingston, for the Gardiner Electric Light & Water Company; C. O. Lauer, President and General Manager for the Gardiner Electric Light & Water Company; George Welcome, Ray Richey, and Roy Easton, for the citizens of Gardiner and Gateway Hose Company.

By the COMMISSION:

[1] This Commission, after due and proper notice to all parties concerned, held a public hearing at Gardiner, Montana, on July 21, 1939, for the purpose of investigating the water rates and service of the Gardiner Electric Light & Water Company. At the said public hearing evidence was introduced by both the utility and the consumers. This utility has 105 customers and the chief controversy at the hearing related to water hydrant service given by the utility. While a great deal of evidence was introduced relative to the rates charged by the utility for fire hydrant service, we believe the rates to be reasonable and hence will not discuss them herein. However, the evidence shows the utility is not providing sufficient size mains to its customers for fire protection. We believe that this utility, in holding itself out to serve water in case of fire, thereby obligates itself to install and maintain proper size mains to carry a sufficient supply of water in case of fire.

Because of the foregoing it is our opinion that this utility should install a 6-inch main throughout the business district of Gardiner, Montana, that is to say from Park to Main streets in the main business district of Gardiner and that the utility install at least three additional fire hydrants on its mains at suitable places which can be used most advantageously in case of fire.

[2] There was some controversy at the hearing as to whether or not the utility or the fire department should maintain the fire hydrants which are now installed. The evidence shows that the fire hydrants that are now installed are owned by the fire department and, this being so, it is our opinion that the fire department is fully and alone responsible for any damage that may accrue to these fire hydrants by third parties.

An appropriate order will be entered.

Public Utility Commission

v.

Abington Electric Company et al.

[Complaint Docket No. 12764, Sub. No. 58.]

Service, § 485 — Procedure — Rule to show cause — Resale of service.

A proceeding on a rule to show cause why electric utilities should not incorporate a provision against resale of electricity should be terminated when a rule to show cause does not pertain to the subject matter under existing circumstances.

Service, § 68 — Jurisdiction of Commission — Submetering of electricity.

Statement that the Commission has jurisdiction and power to investigate the propriety of submetering and remetering of electric current as permitted by any electric utility, and, after hearing, to enter an appropriate order thereon, p. 128.

[October 31, 1939.]

RULE *against electric utility to show cause why prohibition against resale should not be incorporated as part of filed tariff; proceedings terminated.*

By the COMMISSION: On June 12, 1939, the Commission issued a rule against each electric utility in the commonwealth to show cause why it should not incorporate as part of its filed tariff the following:

"No electric service shall be furnished to any consumer for resale to another or others: Provided, That nonprofit coöperative associations, utilities, and municipalities shall not be subject to this clause."

On July 26, 1939, an initial hearing was held in which several of the utilities moved to dismiss the proceedings. Argument on the motion to dismiss was held on September 25, 1939. We are all of opinion that the present proceeding should be terminated for the reason that a rule to show cause does not pertain to the subject matter under existing circumstances.

However, the Commission has jurisdiction and power to investigate the propriety of submetering and remetering of electric current as permitted by any electric utility and, after hearing, to enter an appropriate order thereon; therefore,

Now, to wit, October 31, 1939, it is *ordered:* That the proceedings be and are hereby marked terminated.

Industrial Progress

Selected information about manufacturers, new products, and new methods. Also news on personnel changes, recent and coming events.

Power Firms Expected to Spend $600,000,000 in 1940

A CONSTRUCTION budget of around $600,000,000 for the electric power and light industry during 1940 was forecast by C. W. Kellogg, president of the Edison Electric Institute in an annual survey of the industry.

Such a sum, Mr. Kellogg said, would be exclusive of expenditures on Federal projects and would compare with approximately $450,000,000 in 1939. New private and Federal construction programs, as now planned for 1940 and 1941, will add 4,315,000 kilowatts of additional capacity.

$37,047,735 Program Planned by Standard Gas & Electric

EXPENDITURES for improvement of facilities and new construction throughout the Standard Gas and Electric Company system in 1940 will amount to $37,047,735, Bernard W. Lynch, president, announced recently. Of this amount, approximately $3,365,000 will be carried over from the 1939 construction budget for expenditures on projects not completed this year, Mr. Lynch said.

A summary of the Standard Gas and Electric budget indicates estimated expenditures in the electric department as $32,718,999; gas department, $3,454,021, and other departments, $874,715.

American Gas Association to Conduct All-Year Campaign

A CONTINUOUS year-round selling campaign is planned by the American Gas Association for 1940, with more than 600 utility companies and many gas appliance dealers cooperating, it was announced recently. The year will be divided into four quarters, with the general theme "Life Begins in '40 for Gas Refrigeration." The first quarter will be devoted to the replacement market.

There are at present 2,600,000 automatic refrigerators which have been in service for eight years or more, according to Bernard T. Franck, who was named chairman of the association's refrigeration committee. This market is not seasonal, he said, and the potential is considered an incentive for an all-year campaign. The drive will be run with the utilities and their salesmen competing for awards—trophies for the first and cash for the second.

Other officers named were Louis Ruthenburg, vice chairman; John W. West Jr., secretary, and R. J. Rutherford, the retiring chairman, consulting chairman.

Aluminum Company to Build New Plant

ROY A. Hunt, president of the Aluminum Company of America, announced recently that a "several-million-dollar" metal-producing plant would be built at Vancouver, Washington, to take care of an increased demand for aluminum on the West Coast.

Construction soon will begin, he said, and the plant will be finished in about a year. It will have an initial producing capacity of 30,000,000 pounds of aluminum annually, raising the company's annual peak capacity to more than 400,000,000 pounds.

Electrical Field Shows 30 Per Cent Gain for 1939

THE electrical manufacturing industry in 1939 registered a rise in activity about 30 per cent above the preceding year, W. J. Donald, managing director of the National Electrical Manufacturers Association, reported. This increase exceeded the estimates of a 20 to 25 per cent advance at the beginning of 1939.

Mr. Donald said the evidence pointed to a continued business expansion of 5 to 10 per cent during 1940 with an expected increase of 10 to 15 per cent in the durable goods lines.

Duquesne Light Inaugurates $16,000,000 Program

A $16,000,000 construction program, including a new 80,000 horsepower generating unit, will be inaugurated early in 1940 by the Duquesne Light Company, Frank R. Phillips, president of the company, announced recently.

The steam turbine generator will be installed at the James H. Reed Power Station on Brunot Island and will increase the total generating capacity of the system to 752,000 horsepower. This additional capacity will provide all demands anticipated in the near future. The cost of the turbine alone and its auxiliary equipment is expected to reach $5,000,000.

The regular construction budget for the year 1940 includes other items such as extensions to substations, high voltage line ex-

tensions, additional distribution facilities, and increased transformer capacity throughout the system, the total cost of which will run several million dollars, it was stated.

In order to supply coal for the additional generating capacity, new mining machinery will be installed in the coal mines at Harwick and Warwick, and it will be necessary to complete a new coal tipple at the Warwick mine, costing approximately a half million dollars.

1939 Cited As Successful Year for Gas Industry

THE year 1939 was a "banner" year for the gas industry, with gas appliance sales throughout the United States registering substantial increases over those of the previous year, Frank H. Adams, president of the Association of Gas Appliance and Equipment Manufacturers, reported in a year-end statement. He attributed the rise to extended national promotion, increased advertising, constant improvement of product, and "consciousness" of consumer trends.

Mr. Adams, who is vice-president of the Surface Combustion Corp., of Toledo, Ohio, said that the following increases in the sales of major gas appliance lines will be noted for 1939 as compared with 1938: house heating equipment, 45.0 per cent; gas ranges, 32.0 per cent; gas water heaters, 30.0 per cent, and gas refrigerators, 30.0 per cent. He estimated that shipments of gas ranges alone for the year 1939 will approach 1,350,000 units which is considerably in excess of 1938 sales.

Public Service of N. J. Plans Expansion Program

A CONSTRUCTION budget of more than $17,500,000 has been authorized for the coming year by Public Service Corp. of New Jersey. More than $9,000,000 of this sum will be applied for the electric department of the system's principal subsidiary, Public Service Electric & Gas Co., bringing the total allocated to the power facilities since 1937 to more than $53,000,000.

Included in the major construction projects under way is work on the $12,000,000 extension of Burlington generating station, where a 100,000 kw. turbo-generator and two boilers will be installed. Also, included in the program is installation of a 50,000 kw. turbine generator being built for the Marion steam station in Jersey City at a cost of $7,500,000.

Other items in the electric department's construction budget are a switching station near Camden, high voltage steel tower transmission lines connecting Camden with Burlington and Burlington with Trenton, a new substation at Fairview, and replacement of the present Mt. Holly substation with a new unit. High and low tension facilities at Atlantic avenue, Camden, will be modernized and $1,000,000 will be spent to further placing underground of transmission lines on heavy traffic arteries.

Gas department expenditures next year call for development of increased gas supply for Bergen county and expansion of production and manufacturing facilities.

Frank T. Kalas Elected Vice-President of Exide

AT a recent meeting of the board of directors of The Electric Storage Battery Company, Frank T. Kalas, general sales manager, was elected third vice-president.

Mr. Kalas has had a long and varied experience in all fields of storage battery application, and will direct the sales activities as vice-president and general sales manager.

$1,100,000 Program Approved by Telephone Company

CHESAPEAKE & Potomac Telephone Co. directors have approved expenditures totaling $1,100,000 for construction, replacement and removal of telephone plant in Maryland, it was announced recently. Of this amount, about $775,000 will be required in the first quarter of 1940 for day-to-day work of installing and removing telephone facilities on subscribers' premises. Total appropriations for the new year are slightly more than $6,200,000.

Building Wire Booklet

THE National Electrical Manufacturers Association has issued a report on investigation of small diameter building wire, giving the description of equipment and preparation of test samples, procedure, discussion of results and observations, conclusions and recommendations, and a section of tables and charts.

Copies may be obtained from the association, 155 East 44th Street, New York City.

New G-E Publication

OPERATING characteristics, economies and applications of the synchronous motor are discussed in publication GEA-1191B of the General Electric Co. This publication contains two charts: one indicates synchronous motor ratings and the other is a direct-reading power factor-improvement chart.

Copies may be secured from the manufacturer, Schenectady, N. Y.

"Give!" says Government *and*

its "TAKE" exceeds the total income of the Western half of the United States—and the end is not yet.

IN 1938, the income of the darkened area of this map was $17,696,000,000.

But in 1938, Government, Federal, state and local, spent about $18,000,000,000.

That's more than the entire West realized from all the products of its year's work.

It equals nearly 30 cents of every dollar the nation's producers earned in 1938.

And what did it buy?

Well, for one thing it bought relief from distress for the needy. Everybody agrees to the rightness of doing that. But only one dollar out of six was spent for relief.

Most of the other increases in spending go for innovations in government service.

The last few years have seen the creation of 67 new Federal boards, commissions, administrations and authorities, agencies to supervise every activity of business from peanut-vending to steel production. Likewise, open and indirect competition with all business.

The question is *not* whether these are desirable government functions.

The question is whether the country wants expansion of government, which must be *paid for* by increased taxes—

Or wants expansion of business, which *pays* in jobs and wages.

For the increased money that now goes into government spending is the money that formerly went into new products, new factories, bigger payrolls. There isn't enough in the earned dollar to go both ways.

Less Taxes—More Jobs

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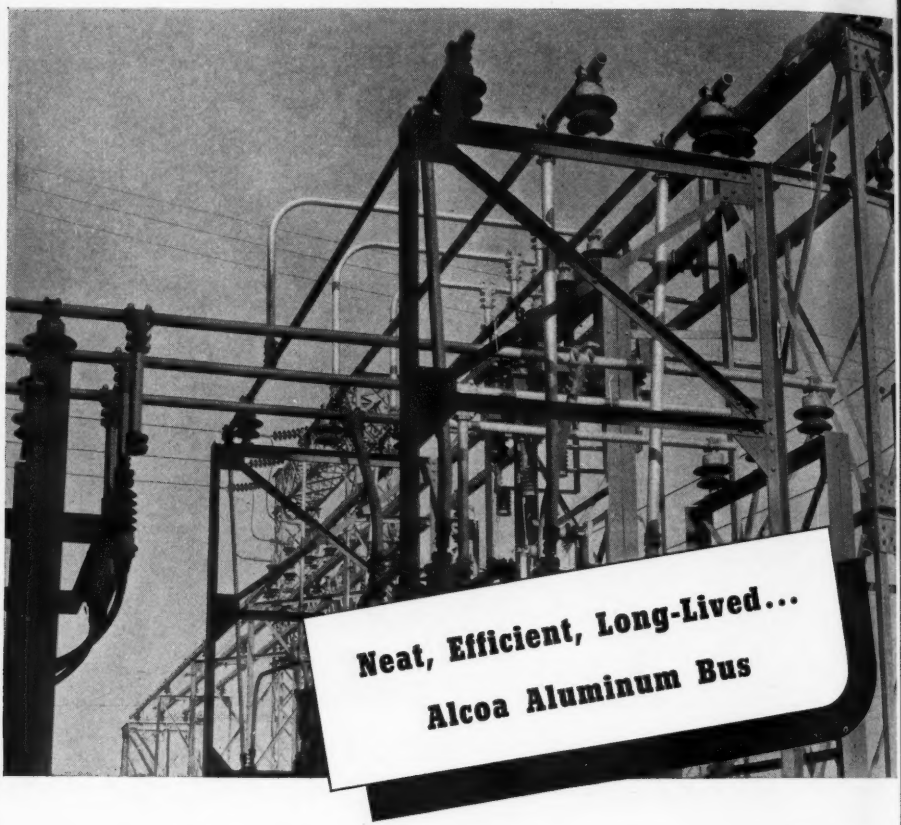

Buses lined up perfectly, with bends formed to match exactly; this is an installation of which the workmen can well be proud. It will retain its fine appearance, too, for bus and fittings are Alcoa Aluminum.

Tubular Alcoa Aluminum Bus, though light in weight, is very rigid. Supports can be widely spaced. Weight of supporting structures can be lower, with the result that material and construction costs are less. Alcoa Aluminum conductors, whether tubular, flats, angles or channels, offer a high degree of electrical and thermal efficiency.

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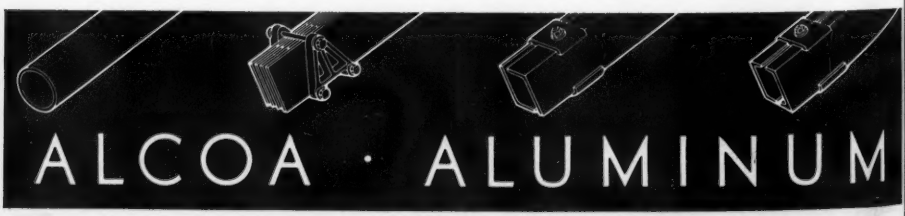

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PROFESSIONAL DIRECTORY

• These pages are reserved for engineers, accountants, rate experts and others equipped to serve utilities in all matters relating to rate questions, appraisals, valuations, special reports, investigations, design and construction.

PROFESSIONAL DIRECTORY (*concluded*)

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"FASTER! FASTER!"

HOW delightful, how interesting—even today—that famous fantasy of Lewis Carroll! Remember? Alice and the Red Queen were running hand in hand. The Queen went so fast it was all Alice could do to keep up with her. And still the Queen kept crying, "Faster! Faster!" But Alice could go no faster though she had no breath to say so.

Exhausted, she finally sat down and looked around her in great surprise to find that with all her running she was still under the same tree and apparently had made no progress.

"Well," said Alice to the Queen, "in *our* country, you'd generally get somewhere else—if you ran very fast for a long time, as we've been doing."

"A slow sort of country!" said the Queen. "Now, *here*, you see, it takes all the running you can do to keep in the same place.

If you want to get somewhere else, y must run at least twice as fast as that

How well all of us in the electrical indu try know that we must run *faster, faster* if we are to keep pace with our growi industry.

Some may believe that an early electric pioneer, like Alice, took a bite off t side of a magic mushroom and caus the phenomenal growth of the industr However, *we* believe that it has be brought about by the progressiv management and great foresight of i leaders.

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